

APPLICATION

| NHA | USED ON | LTR | DATE   | CO ECP O/A             | REVISION DESCRIPTION     | APVD |
|-----|---------|-----|--------|------------------------|--------------------------|------|
|     | WSR-88D | A   | 091801 | ECP 0141<br>ECO A00737 | INITIAL RELEASE AT REV A | GS   |
|     |         | B   | 030802 | ECP 0141<br>ECO A00738 | MULTIPLE CHANGES         | GC   |

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| APPROVALS |    |     |           |
|-----------|----|-----|-----------|
| DWN       |    | LOG |           |
| CHK       | NF | DOC |           |
| ENGR      | TB | CM  | GC 010927 |
| QA        |    | ROC |           |

DOC/DOD/DOT  
WSR-88D RADAR OPERATIONS CENTER  
3200 MARSHALL AVENUE  
NORMAN, OKLAHOMA 73072

NOMENCLATURE

RPG INCO PLAN FOR OPEN SYSTEMS  
UPGRADE

SIZE      CAGE CODE      DWG NO.      REV  
A           0WY55           2640002          B

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**1 Subject**

The Weather Surveillance Radar 1988 Doppler (WSR-88D) System comprises Doppler radars, telecommunications, computer data communications, data processing hardware and software, display and data entry equipment, documentation, and support facilities and capabilities. The purpose of the system is to detect, process, generate and distribute weather radar information in a manner, which allows the U.S. Departments of Commerce, Defense, and Transportation to fulfill their mission requirements.

The upgrade to NEXRAD Radar Product Generations (RPGs) has been an ongoing design, development, and testing process. The Radar Operations Center (ROC) has prepared engineering, acquisition and other technical documentation for the RPG. The next stage is RPG deployment to operational and support NEXRAD WSR-88D sites. The RPG hardware will be assembled and kitted at the National Reconditioning Center (NRC) from legacy rack units and new hardware purchased from precompeted contracts. Once kits are complete, the National Logistics Support Center (NLSC) will ship the kits to operational sites for installation by teams trained by the ROC.

**NOTE**

**The acronym “RPG” is still applicable to the Open Systems Radar Product Generation function. All references to the RPG hence forth in this document will be in reference to the Open Systems RPG. The RPG that is being replaced will be referred to as the Legacy RPG.**

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2 Purpose

This purpose of the INCO Plan is to provide the details on the work expected of installation teams, the procedures the teams are to use and other pertinent information the ROC requires for installation teams to install, mark, test and turnover RPG hardware at the Department of Commerce (DOC), Department of Defense (DoD), and Department of Transportation (DOT) field sites. Instructions are also included for the removal and disposal of Legacy RPG equipment.

### 3 Scope

The scope of this document is limited to the installation and checkout of the RPG including identification of preinstallation site survey requirements, INCO team requirements, site arrival arrangements for personnel and RPG equipment, on site in-briefing requirements, checkout of WSR-88D site status prior to RPG installation, procedures for the installation of all RPG equipment, acceptance testing, reporting procedures, high level trouble shooting procedures, disposal of Legacy RPG equipment, and formal turnover. The term “RPG equipment” refers to the RPG, the Master System Control Function (MSCF), and the Remote Base Data Distribution Server (RBDDS) as applicable. The objective at all radar sites during RPG installation is to ensure the radar is not down more than a single workday. At redundant DOT radar sites where two RPGs will be installed on successive days, the objective is to keep radar down time to a single day per RPG installed. This document does not provide information for the assembly or kitting of RPG cabinets. **This document does not include installation or testing procedures for the DOT Remote Monitoring Subsystem (RMS) since these will have to be performed by the DOT staff on site.**

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#### 4 Objective

The objective of this document is to provide:

1. Identification and definition of INCO team requirements (Reference Section 19)
2. On site arrival coordination requirements (Reference Section 19, 20)
3. Requirements for coordination between ROC deployment managers and installation team members with agency points of contact and local site staff to move, deactivate or otherwise modify circuits (Reference Section 19, 20)
4. Pre-installation site survey requirements (Reference Section 23)
5. On site in-briefing requirements prior to beginning work (Reference Attachment A)
6. Procedures to checkout status of the site Legacy WSR-88D prior to RPG installation (Reference Attachment D)
7. Disassembly instructions for all legacy RPG configurations (Reference Attachment F)
8. Procedure for installation of RPG equipment (Reference Attachment F)
9. Procedures relevant to moving co-located DOC RPGs from shelters to forecast offices including rewiring communication panels and installation of hardware (Reference Attachment F.5)
10. Testing Procedures (Reference Attachment H)
11. Procedures for arranging storage and shipment of legacy equipment (Reference Attachment I)
12. Procedures for removal and preparation for shipment of legacy equipment (Reference Attachment J)
13. Procedures for formal acceptance after successful testing (Reference Attachment L)
14. Reporting procedures to ensure SADs and other documentation are updated at conclusion of INCO activities (Reference Attachment M)
15. Procedures for installation of Local MSCF equipment (Reference Attachment N)
16. Procedures for installation of Distant MSCF equipment (Reference Attachment O)
17. Procedures for installation of Remote BDDS equipment (Reference Attachment P)
18. High Level Troubleshooting procedures (Reference Attachment Q)
19. Procedures for rewiring demarcation panels (Reference Attachment U)

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## **5 Safety**

### **5.1 General Safety Instructions**

This document describes physical and chemical processes that may cause injury or death to personnel, or damage to equipment if not properly followed. This safety summary includes general safety precautions and instructions assembly personnel must understand and apply during operation and maintenance to ensure their safety and the protection of equipment. Before doing any task, the WARNINGS, CAUTIONS, and NOTES included in that task will be reviewed and understood.

### **5.2 Warnings, Cautions, and Notes**

WARNINGS and CAUTIONS in this document highlight operating or maintenance procedures, practices, conditions, or statements that are essential to protection of personnel (WARNING) or equipment (CAUTION). WARNINGS and CAUTIONS immediately precede the step or procedure to which they apply. WARNINGS and CAUTIONS consist of four parts: heading (WARNING or CAUTION), a statement of the hazard, minimum precautions, and possible result if disregarded. NOTES are used in this manual to highlight operating or maintenance procedures, practices, conditions, or statements which are not essential to protection of personnel or equipment. NOTES may precede or follow the step or procedure, depending upon the highlighted information. The headings used and their definitions are as follows.

#### **5.2.1 WARNING**

Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which if not strictly observed, could result in injury to, or death of, personnel or long term health hazards.

#### **5.2.2 CAUTION**

Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which if not strictly observed, could result in damage to, or destruction of, equipment or loss of mission effectiveness.

#### **5.2.3 NOTE**

Highlights an essential operating or maintenance procedure, condition, or statement.

### **5.3 General Safety Precautions**

The following safety precautions shall be observed while performing procedures in this manual.

#### **5.3.1 Electrical**

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Dangerous voltages are present at system connectors. Ensure power is OFF before connecting or disconnecting cables.

#### 5.3.2 Electronic

Do not wear metal frame glasses, rings, watches, or other metal jewelry while working on electronic equipment.

#### 5.3.3 High Voltage (Power On)

Avoid contact with high voltage in the equipment, and DO NOT remove safety guards, panels, or covers in the high voltage area. Severe injury or DEATH may occur upon contact with or in the proximity of high voltages due to electrical shock.

#### 5.3.4 High Voltage (Power Off)

Avoid contact with the high voltage circuit area. Properly discharge all high voltage capacitors with the grounding rod. Dangerous high voltages exist when power is turned off and remain until discharged. Severe injury or DEATH may occur upon contact with or in the proximity of high voltages due to electrical shock.

#### 5.3.5 Keep Away from Live Circuits

Maintenance personnel must at all times observe all safety regulations. Do not replace components or make adjustments inside the equipment with the high voltage supply turned on. Under certain conditions, dangerous potentials may exist when the power control is in the off position due to charges retained by capacitors. To avoid casualties, always remove power, discharge and ground circuit before touching it.

#### 5.3.6 Do Not Service or Adjust Alone

Under no circumstances should any person reach into or enter an enclosure to service or adjust the equipment except in the presence of someone who is capable of rendering aid.

#### 5.3.7 Resuscitation

Personnel working with or near high voltage should be familiar with modern methods of CPR. Such information may be obtained from the Red Cross or Heart Association.

#### 5.3.8 Do Not Wear Jewelry

Personnel doing maintenance on equipment are not to wear metal frame glasses, watches, rings, necklaces, bracelets or other jewelry anytime. Electrical arcing can occur when metallic objects are in the proximity of voltage potentials. Jewelry can become entangled or otherwise restrict movement causing severe personnel injury.

#### 5.3.9 Flammable And/or Toxic Materials

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Some cleaning materials specified herein are flammable and/or toxic. Keep away from open flame or other ignition sources. Provide adequate ventilation and avoid skin/eye exposure.

5.3.10 Explosive Gas (Batteries)

Service batteries only in a well-ventilated area. Hydrogen and Oxygen gases may accumulate during the charging process. Avoid sparks or open flames near batteries. Severe burns or DEATH may occur due to explosion.

5.3.11 Sulfuric Acid

Wear protective clothing, face shields, gloves, and aprons when servicing batteries. Severe skin and eye injury may occur upon contact with battery acid. Flush skin and eyes with water immediately and get medical attention.

5.3.12 Cleaning Solvents (General)

Wear protective clothing, safety goggles, and gloves when using toxic cleaning solvents. Repeated and prolonged contact may cause skin and eye irritation. Flush skin and eyes with water. Remove clothing saturated with cleaning solvent.

5.3.13 Cleaning Solvents (Inhalation)

Use cleaning solvents only in a well-ventilated area. Avoid inhalation of cleaning solvents. Asphyxiation or DEATH may occur from prolonged exposure to fumes.

5.3.14 Perform Work Efficiently

When working in areas designated as hazardous, perform work using the proper safety procedures. Be thoroughly familiar with the procedures required for the task before entering the area.

5.3.15 Secure All Material When Not in Use

Secure all tools, chassis, and covers before operating equipment.

5.3.16 Restore All Interlocks

Restore all interlock switches to normal operating condition immediately upon completion of work on the unit involved.

5.3.17 Do Not Use Metal Tools near Exposed Parts

Do not use brushes, brooms, or other tools that have exposed metal parts within four feet of any electrical equipment having exposed current-carrying parts.

## 5.4 Specific Safety Precautions

### 5.4.1 Major Equipment Damage

Mismatching electrical connectors on the RPG can cause major equipment damage. Therefore, ensure that the connector keys/color coding is followed when reconnecting connectors during maintenance.

### 5.4.2 Removal of Tools

Remove all tools and dropped hardware such as locknuts, washers, screws, etc., from equipment prior to restoring power to any WSR-88D equipment.

### 5.4.3 Electro Static Discharge

A grounding strap should be worn by assembly personnel when working with electronic circuits. The grounding strap is worn on the wrist and connected to an electrical ground to reduce the possibility of creating static charges to the sensitive circuitry.

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**6      Sites Affected**

This INCO Plan is applicable to all WSR-88D RPG and UCP sites as listed in Attachment V.

**7      Estimated Installation Time**

The estimated installation time for each RPG is one work day.

The estimated testing and acceptance time for each RPG is one work day.

**8      Equipment affected**

This INCO Plan is applicable to all WSR-88D RPG and UCP equipment as listed in Attachment V.

## 9 Spares Affected

### 9.1 Legacy Spares and SERDs for Disposal

The following spares and/or SERDs shall be will be turned over to local site property manager. The local site property manager will dispose of these items IAW their agency's current policy.

**Table 9-1 Discontinued On-Site Spares and SERDs**

| ASN          | NOMENCLATURE        | PART NUMBER | NSN              | DOT QTY | DoD QTY | DOC QTY |
|--------------|---------------------|-------------|------------------|---------|---------|---------|
| R400-21A3A20 | ASSEMBLY, PCB       | 35-910      | 5998-01-358-4474 | 1       | 0       | 1       |
| R400-21A4A2  | NARROWBAND MODULE   | FV5310-MG03 | 5998-01-397-8290 | 0       | 1       | 0       |
| R400-SE15    | LOOPBACK CABLE, MPC | 17-679      | 5995-01-390-2565 | 1       | 1       | 1       |

### 9.2 New On-site Spares

The following items, shipped from the NLSC, will be kept and maintained as on site spares and/or SERDs.

**Table 9-2 New On-Site Spares**

| ASN               | NOMENCLATURE         | PART NUMBER | NSN              | DOT QTY | DoD QTY | DOC QTY |
|-------------------|----------------------|-------------|------------------|---------|---------|---------|
| R400-71A2         | MONITOR, 21"         | 2210036-201 | NWS0-01-600-0005 | 0       | 0       | 1       |
| R400-70/170A4     | MONITOR, 17"         | 2210035-201 | 7025-01-463-4951 | 1       | 1       | 0       |
| R400-70/170A7A1A4 | HARD DISK DRIVE, 9GB | 2210017-209 |                  | 1       | 1       | 1       |
| R400-70/170A7A1A3 | CDROM DRIVE, 32X     | 2210017-208 |                  | 1       | 1       | 1       |
| R400-70/170A6     | MOUSE                | 2100017-204 |                  | 1       | 1       | 1       |
| R400-70/170A5     | KEYBOARD             | 2210017-203 |                  | 1       | 1       | 1       |
| R400-70/170A7A1A2 | 3.5" FLOPPY DRIVE    | 2210017-207 |                  | 1       | 1       | 1       |
| R400-78-110       | CABLE TESTER         | 78-110      |                  | 1       | 1       | 1       |

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**10      Modification Accomplished by**

The Air Force Air Logistics Center (AFALC) Depot Special Projects Branch at Hill Air Force Base, Utah will install RPG hardware. The ROC located in Norman, Oklahoma will be responsible for overseeing the Installation and Checkout of the RPG.

## 11 Material Required

RPG equipment (RPG, MSCF, RBDDS) will be assembled by the NRC and shipped to each site by the NLSC. The equipment shipped to each site will consist of the following major components:

**Table 11-1 Site Equipment List**

|                          | Standard<br>DOC<br>RPG-301<br>SITES | DOD<br>RPG-302<br>SITES | FAA<br>Channel 1<br>RPG-303<br>SITES | FAA<br>Channel 2<br>RPG-304<br>SITES | DOC<br>MLOS<br>RPG-305<br>SITES | DOC<br>RPG<br>MOVE<br>SITES |
|--------------------------|-------------------------------------|-------------------------|--------------------------------------|--------------------------------------|---------------------------------|-----------------------------|
| RPG CABINET              | 1                                   | 1                       | 1                                    | 1                                    | 1                               | 1                           |
| MSCF EQUIPMENT           | 1                                   | 1*                      | 1*                                   | 0                                    | 1                               | 1                           |
| REMOTE BDDS<br>EQUIPMENT | 0                                   | 1* <sup>@</sup>         | 1* <sup>@</sup>                      | 0                                    | 0                               | 0                           |
| ON-SITE SPARES (ISSL)    | 1                                   | 1                       | 1                                    | 0                                    | 1                               | 1                           |
| TECHNICIAN KIT           | 1                                   | 1                       | 1                                    | 0                                    | 1                               | 1                           |
| SERD                     | 1                                   | 1                       | 1                                    | 0                                    | 1                               | 1                           |
| OTHER EQUIP KIT          | 1                                   | 1                       | 1                                    | 0                                    | 1                               | 1                           |
| TECH MANUAL KIT **       | 1                                   | 1                       | 1                                    | 0                                    | 1                               | 1                           |
| RELOCATION KIT           | 0                                   | 0                       | 0                                    | 0                                    | 0                               | 1                           |

<sup>@</sup> Denotes optional equipment

\* Denotes equipment may be shipped to a DOC NWS Forecast Office instead of the DoD/DOT site

\*\* Shipped directly by ROC Documentation

There will also be some site specific components shipped to each site.

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**Table 11-2 Technician Kit**

| ITEM NAME                  | NSN              | SCD Part Number | Commercial Part Number                                  | Quantity |
|----------------------------|------------------|-----------------|---|----------|
| CABLE ASSEMBLY, LOOPBACK   | NWS0-11-370-0004 | 2200101-201     | Black Box CBCC166411-24                                 | 1        |
| CABLE ASSEMBLY, W/PO UPS   | NWS0-11-210-0012 | 2210005-205     | APC 940-1524  | 1        |
| CABLE ASSEMBLY, Crossover  | **               | 2210006-202     | Baytech RJ08X007  | 1*       |
| ADAPTER, CABLE, RJ45-DB9F  | **               | 2210006-203     | Baytech 9FRJ45PC-1                                      | 1*       |
| AT MODEM CABLE, DB9F/DB25M | NWS0-11-560-0001 |                 | Black Box EVMBMC-0010 or substitute                     | 1        |
| CABLE, SERIAL, 9-PIN, APC  | **               | 2210007-203     | APC 940-0103  | 1        |
| ADAPTER, CABLE             | **               | 2210015-206     | Cisco 74-0495-01  | 1        |
| RJ45 ROLLOVER CABLE        | **               | 2210015-205     | Cisco CAB-500RJ or Cisco 72-1259-01 or Cisco 72-0876-01 | 1        |
| NULL MODEM CABLE           | NWS0-11-340-0003 | 2210042-206     | PTI 160P0341  | 1        |
| ASSEMBLY, CABLE, CONSOLE   | **               | 2210042-207     | PT-ACCMPS-10585 and 160P019720                          | 1        |
| ADAPTER, RJ45-DB25F        | **               | 2300027-301     |   | 1        |
| GENDER CHANGER DB25 F/F    | **               |                 | Black Box FA412   | 1        |
| GENDER CHANGER DB9 M/M     | **               |                 | Black Box FA440   | 1        |
| LOOPBACK CONNECTOR         | **               | 2320057-301     |   | 1*       |

\* DOT only

\*\* This part number is non-stock listed and will be provided by the Assembly team.

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**Table 11-3 ISSL Kit**

| ITEM NAME            | NSN              | Part Number | Quantity |
|----------------------|------------------|-------------|----------|
| KEYBOARD             | NWS0-11-340-0001 | 2210017-203 | 1        |
| MOUSE                | NWS0-11-340-0002 | 2210017-204 | 1        |
| CDROM DRIVE, 32X     | NWS0-11-210-0009 | 2210017-208 | 1        |
| HARD DISK DRIVE, 9GB | NWS0-11-210-0010 | 2210017-209 | 1        |
| FLOPPY DRIVE, 3      | NWS0-11-210-0002 | 2210009-207 | 1        |
| MONITOR, 17"         | 7025-01-463-4951 | 2210035-201 | 1*       |
| MONITOR, 21"         | NWS0-01-600-0005 | 2210036-201 | 1@       |

\* DOD and DOT only

@ DOC only

**Table 11-4 SERD**

| Item Name    | NSN | Part Number | Quantity |
|--------------|-----|-------------|----------|
| Cable Tester |     | 78-110      | 1        |

**Table 11-5 Other Equipment Kit**

| ITEM NAME                   | NSN              | Part Number | Quantity |
|-----------------------------|------------------|-------------|----------|
| JAZ DISKS                   | 7045-01-469-1588 | 2210008-203 | 20       |
| FEDEX ENVELOPE, PRE-LABELED |                  | FEDEX       | 1        |

\* Quantity is 1 per RPG Processor Location

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**Table 11-6 Tech Manual Kit**

| <b>Manual Number</b> | <b>Title</b>  | <b>NSN</b>       | <b>Quantity</b> |
|----------------------|---|------------------|-----------------|
| EHB 6-500            | WSR-88D Radar System Manual                                 | 7610-PB-000-0203 | 1*              |
| EHB 6-501            | WSR-88D Illustrated Parts Breakdown                         | 7610-PB-000-0007 | 1*              |
| EHB 6-502            | WSR-88D Work Unit Code Manual                               | 7610-PB-000-0008 | 1*              |
| EHB 6-503            | WSR-88D Work Card Set (PM)                                  | 7610-PB-000-0010 | 1*              |
| EHB 6-503-2          | WSR-88D Work Cards (RDA, RPG, RPIE, and Wideband)           | 7610-PB-000-0012 | 1*              |
| EHB 6-510            | WSR-88D RDA Maintenance Manual                              |                  | 1*              |
| EHB 6-525            | WSR-88D RPG Maintenance Manual (Open Systems)               |                  | 1               |
| EHB 6-526            | Operation Instructions Open Radar Product Generation (RPG)  |                  | 1               |
| EHB 6-530            | WSR-88D PUP Maintenance Manual                              |                  | 1*              |
| EHB 6-545            | Maintenance Manual, Wideband Communications Equipment (RPG) |                  | 1               |
| N/A                  | Adaptable Parameters Handbook                               | NWS9-62-550-0006 | 1*              |

\* These manuals are not required to be on site for INCO to be completed and may or may not be shipped in the Tech Manual Kit. Missing manuals will be received by the site at a later date.

**Table 11-7 Relocation Kit**

| <b>Item Name</b> | <b>NSN</b>       | <b>Part Number</b> | <b>Quantity</b> |
|------------------|------------------|--------------------|-----------------|
| CABLE ASSEMBLY   | 5995-01-394-9800 | 1222329-301        | 1               |
| CABLE ASSEMBLY   | 5995-01-470-6745 | 1222328-301        | 1               |
| CABLE ASSEMBLY   | 5995-01-406-6484 | 1224038-301        | 1               |
| CABLE ASSEMBLY   | 5995-01-470-6747 | 1222332-301        | 1               |
| CABLE ASSEMBLY   | 5995-01-448-9193 | 1222332-302        | 1               |
| CABLE ASSEMBLY   | 5995-01-406-6498 | 1224039-301        | 1               |
| CSU              | 5895-01-389-3793 | 1222301-201        | 2               |

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|                     |                  |             |   |
|---------------------|------------------|-------------|---|
| MODEM<br>ELIMINATOR | 5998-01-355-4125 | 1214506-201 | 1 |
|---------------------|------------------|-------------|---|

## 12 Sources of Materials

The ROC will coordinate RPG installations with site personnel and with the Air Force installation control manager to establish final arrival and installation dates. The ROC staff will coordinate with the NLSC for shipment and arrival of RPG kits. All dates will be subject to weather conditions at the scheduled installation time.

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### **13 Facilities and Equipment Requirements**

This section covers requirements for lighting, power, HVAC, support equipment, material handling equipment, benches, test equipment, special tools, support equipment, grounding and security.

#### **13.1 Lighting**

Existing lighting at RPG and UCP sites will be used. Portable lighting may be required.

#### **13.2 HVAC**

Existing HVAC at RPG and UCP sites will be used.

#### **13.3 Power & Grounding**

Existing power and grounding at RPG and UCP sites will be used. Additional extension cords may be required.

#### **13.4 Material Handling Equipment**

Site personnel must inform the ROC deployment team, through the ROC pre-installation site survey, of any special equipment and handling materials required at the site.

#### **13.5 Work and Test Benches**

The installation team requires no special work or test benches during installation.

#### **13.6 Security**

The installation area does not require any special security features.

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### 13.7 Standard Tools

Installation team requires the following standard tools:

1. IC Extractor/Insertion Tool Kit, Jameco P/N 104707
2. IC Pin Straightener, Jameco P/N 99362
3. Nut driver set, hex including:  
3/16", 1/4", 3/8", 5/16", 11/32", 3/8", 7/16", 1/2"
4. Pliers set including:  
4" and 6" diagonal cutters                      4" and 6" needle nose                      channel locks  
6" and 8" slip joint                                  10" arc joint  
7" straight jaw    7" curved jaw locking
5. Screwdriver set, electronic thin blade including:  
1/8" x 3", 1/8" x 6", 1/8" x 8", 1/8" blade, 1/8" x 4", 3/16" x 4", 1/4" x 4", 1/4" x 6", 5/16" x 8", 3/8" x 12"
6. Screwdriver set, flat-tip including:  
1/8" x 4", 3/16" x 4", 1/4" x 4", 1/4" x 6", 5/16" x 8", 3/8" x 12"
7. Screwdriver set, Philip-tip including:  
#1 x 3", #2 x 4", #2 x 8", #3 x 6"
8. Wrench set, adjustable including:  
4", 8", 12", 18" length
9. Wrench set, combination including:  
1/4", 5/16", 11/32", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1", 1-1/8", 1-1/4", 1-3/8", 1-1/2", 1-5/8"
10. Wrench set, socket 1/4" drive including:  
3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2", 12 pt. socket; 3" and 6" extension bars; quick release ratchet
11. 3/8" Deep socket for power filter
12. 10-32 Tap with handle for blank mounting rails
13. Utility knife
14. Scissors
15. Kit, ESD component handling (wrist strap with ground clip and conductive mat with ground clip), 3M Product No. 8012 or equivalent
16. Inspection mirror
17. Flashlight
18. Wiremarker Dispenser/Booklet, Jensen 251-098 or equivalent, or white adhesive tape

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19. 3/8" Electric Drill, 1/4" drill bit

### 13.8 Special Tools and Test Equipment

The following Special Tools and Test Equipment are required for installation and checkout:

- |                                     |                                |
|-------------------------------------|--------------------------------|
| 1. Gender Changer, DB25 (F/F)       | FA412                          |
| 2. Adapter, Cable, RJ45-DB25F       | Cisco 29-0810-01               |
| 3. Adapter, Cable, RJ45-DB9         | Cisco 74-0495-01               |
| 4. Assembly, Cable, Console         | PTI 160P019720                 |
| 5. Adapter, Cable, RJ45-DB9F        | 9FRJ45PC-1                     |
| 6. Gender Changer, DB9 (M/M)        | FA440 or 8714A50PC22           |
| 7. Cable, AT Modem, DB9F-DB25M      | EVMBMC-0010                    |
| 8. Cable, Crossed, RJ45-8pin        | RJ08X007                       |
| 9. Cable, Cisco, RJ45               | Cisco 72-1259-01               |
| 10. Cable, Serial, 9-pin            | APC 940-0103                   |
| 11. Cable, UPS Serial, 9-pin        | APC 940-0024 or APC 940-1524   |
| 12. Cable, Null Modem               | PTI 160P0341                   |
| 13. Cable Assembly, Loopback        | 2200101-201                    |
| 14. Connector, Loopback             | 2320057-301                    |
| 15. Connector, Loopback DB50(F)     | 2320058-301                    |
| 16. Connector, Loopback (F), 50-pin | 2320059-201                    |
| 17. Telephone Butt Set              | Harris TS22 or equivalent      |
| 18. Six Wire Modular Adapter        | Harris 10220-100 or equivalent |
| 19. Eight Wire Modular Adapter      | Harris 10230-100 or equivalent |
| 20. Multimeter                      |                                |
| 21. Impact Punch Tool               | Jensen 23-814 or equivalent    |
| 22. Impact Punch Tool 66 Blade      | Jensen 23-066 or equivalent    |
| 23. 3/8" Electric Drill, drill bits |                                |

Items 1 through 14 are supplied to all sites as part of the Technician Kit as defined in Table 11-2. If the INCO team needs to use one of these items during installation, it can be borrowed from the site. Items 15 and 16 are provided by the ROC to the INCO team (along with the items listed in Section 13.10). The remaining items are supplied by Hill AFB to the INCO teams, in conjunction with standard tools listed in Section 13.7.

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### 13.9 Safety Training and Safety Equipment

The ROC is responsible for providing safety training and subsequent safety equipment as required.

#### 13.10 Consumables and Expendables

At least two formatted JAZ disk cartridges for test purposes.

At least two formatted floppy disks for test purposes.

#### 13.11 Installation Area

Adequate space is required to roll the RPG into position, to dismantle the Legacy RPG in place, and to roll the Legacy RPG out of the area. DOD and DOT sites also require enough space in the shelter to have both systems side by side during the installation. DOC sites also require enough space in the forecast office to have both systems side by side during the installation.

#### 13.12 Storage Area

This section describes the storage requirements for RPG equipment (RPG, MSCF, RBDDS)

##### 13.12.1 RPG equipment prior to installation and checkout (when required)

The RPG and its equipment must be stored in dry, climate-controlled location prior to installation.

##### 13.12.2 Legacy RPG equipment awaiting shipment to NLSC

The Legacy RPG must be stored in a dry, climate-controlled location prior to shipment back to the NRC.

##### 13.12.3 Equipment removed from the Legacy RPG cabinets awaiting local site disposal.

The equipment awaiting disposal must be stored by the site.

**13.13 Bench Stock (INCO)**

Bench stock items required by the INCO team include:

| ITEM                       | PART NUMBER     | QUANTITY |
|----------------------------|-----------------|----------|
| 10-ft Patch Cords          | P/N 2210033-201 | 2        |
| 10-ft Power Cords          | P/N 2210029-201 | 1        |
| Analog phone patch cords   | P/N 1219739-212 | 2        |
| Cable Labels               | Spare label set | 1        |
| Tie Wraps                  | P/N MS3367-5-9  | 100      |
| Tie Wraps                  | P/N MS3367-2-9  | 100      |
| Nut                        | P/N MS35650-304 | 2        |
| T-nuts                     | P/N 1223119-201 | 2        |
| Flat Washer                | P/N MS15795-808 | 2        |
| Helical Lock-spring washer | P/N MS35338-138 | 2        |
| Screw (10/32 X 1.25")      | P/N MS51958-68  | 2        |
| Screw (10/32 X .375")      | P/N MS51958-61  | 2        |
| Screw, Self-tapping        | P/N MS51960-72  | 2        |

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## 14 Time & Personnel Required

At most installations it is anticipated installation teams will consist of two staff members. At least one additional staff member will be required for most DoD installations and for all DOT installations because of the distance between the RPG installation site, and the MSCF and RBDDS installations sites.

Reference Attachment V for installation team requirements for each site.

### 14.1 Recommended Experience

The recommended experience for INCO staff members includes one member with an electronics background and a second member with a communications and networking background. The third staff member, when required for DoD and DOT installations, should have experience in electronics.

| INCO Staff Member                    | Skill Level                             |
|--------------------------------------|---|
| Electronics Technician               | Journeyman or Military skill level<br>7 |
| Communications Technician            | Journeyman or Military skill level<br>7 |
| Electronics Technician (as required) | Journeyman or Military skill level<br>7 |

ROC technicians and engineers will train installation personnel. Initial training will take place during RPG installation at support sites such as the National Weather Service Training Center (NWSTC), NRC and the Keesler AFB Training Command (AETC). Training will continue at beta sites where a kit proof will be performed as a final “debug” of the installation process.

### 14.2 Recommended Downtime

The objective at all radar sites during RPG installations is to ensure the radar is not down more than a single workday.

At redundant DOT radar sites where two RPGs will be installed on successive days, the objective is to keep radar down time to a single day per RPG installed. The radar is expected to be operational overnight after the first RPG is installed. The radar will then be brought down a second time the following day to install the second RPG.

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The following table lists the different major work phases involved in the installation and checkout of an RPG. The estimated on site work-hours required for each work phase DOES NOT include travel time required between equipment locations. This table also does not include actions that occur after the RPG is installed and operational.

**Table 14-1 Man-Hours Required for Installation and Testing**

| Work Phases   | On Site Work-Hours |               |              |     |              | Responsible Agency |
|---|--------------------|---------------|--------------|-----|--------------|--------------------|
|   | Standard DOC       | Redundant DOC | DOC RPG MOVE | DoD | DOT (2 RPGs) |                    |
| Site In-Brief   | 1                  | 1             | 1            | 1   | 2            | ROC/INCO Team      |
| Inventory Equipment   | 1                  | 1             | 1            | 1   | 1            | ROC/INCO Team      |
| Installed boxed hardware and related cables                     | 2                  | 2             | 2            | 2   | 3            | ROC/INCO Team      |
| Move new RPG cabinet into place                                 | 0.5                | 0.5           | 0.5          | 4   | 4            | ROC/INCO Team      |
| Pre-install Checkout of WSR-88D status                          | 1.5                | 1.5           | 1.5          | 1.5 | 1.5          | ROC/INCO Team      |
| Remove required legacy equipment and disconnect external cables | 2                  | 2             | 2            | 2   | 4            | ROC/INCO Team      |
| Install new equipment in RPG cabinet                            | 2                  | 2             | 2            | 2   | 3            | ROC/INCO Team      |
| Re-label external cables, rewire demarcation panel              | 2                  | 2             | 2            | 2   | 3.5          | ROC/INCO Team      |
| Checkout of RPG equipment                                       | 2                  | 2             | 2            | 2   | 4            | ROC/INCO Team      |

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|   |      |      |     |    |    |                                  |
|---|------|------|-----|----|----|----------------------------------|
| Install MSCF  | 2    | 2    | 2   | 2  | 2  | ROC/INCO Team                    |
| Checkout of MSCF  | 2    | 2    | 2   | 2  | 2  | ROC/INCO Team                    |
| Prep for Acceptance Test                                  | 2    | 2    | 2   | 2  | 2  | ROC/INCO Team                    |
| Preparation for shipment and disposal of legacy equipment | 2    | 2    | 2   | 3  | 2  | ROC/INCO Team and Site personnel |
| Update SAD, other documentation, and formal turnover      | 2    | 2    | 2   | 3  | 3  | ROC/INCO Team                    |
| Total Work (Hours)  | 32   | 32   | 40  | 32 | 64 |                                  |
| Total Downtime (Hours)                                    | 9-11 | 9-11 | 7-9 | 13 | 5  |                                  |

|      |           |         |     |
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## 15 Documents Affected

### 15.1 National Weather Service Documents

|              |  |
|--------------|--|
| EHB 6-500    | WSR-88D Radar System Manual                                    |
| EHB 6-501    | WSR-88D Illustrated Parts Breakdown                            |
| EHB 6-502    | WSR-88D Work Unit Code Manual                                  |
| EHB 6-503    | WSR-88D Work Card Set (PM)                                     |
| EHB 6-503-2  | WSR-88D Work Cards (RDA, RPG, RPIE, and Wideband)              |
| *EHB 6-505   | SCSI Enclosure Installation and Configuration Manual           |
| EHB 6-510    | WSR-88D RDA Maintenance Manual (Legacy)                        |
| *EHB 6-520   | WSR-88D RPG Maintenance Manual (Legacy)                        |
| *EHB 6-521   | Operator Manual, Unit Control Position (Legacy)                |
| *EHB 6-521-1 | User's Guide, Unit Control Position (Legacy)                   |
| *EHB 6-523   | MMP-200 Multi-Mode Printer Installation Manual                 |
| EHB 6-525    | WSR-88D RPG Maintenance Manual                                 |
| EHB 6-526    | Operation Instructions Open Radar Product Generation (RPG)     |
| EHB 6-530    | WSR-88D PUP Maintenance Manual (Legacy)                        |
| *EHB 6-540   | Maintenance Manual, Wideband Communications Equipment (Legacy) |
| EHB 6-545    | Maintenance Manual, Wideband Communications Equipment (RPG)    |
|              | Adaptable Parameters Handbook                                  |

\*Manual becomes obsolete after installation is complete.

### 15.2 ROC Documents

#### 15.2.1 Radar Operations Documents

RPG Installation Assessment Test Component Document - Attachment X

#### 15.2.2 Circuit Reports

NEXRAD RPG Telecommunications Circuit Report Pre - ECP F103 (RPG Rehost)

|       |           |          |        |
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## NEXRAD RPG Telecommunications Circuit Report Revised for ECP F103 (RPG Rehost)

### Downloading Telecommunications Circuit Reports from the Internet

INCO teams will obtain two telecommunications circuit reports for each RPG site. These reports are needed to complete the procedures in Attachment U: Rewiring Demarcation Panel. One report contains the “existing” or “old” dial and dedicated telephone circuit records for the RPG. The other report contains the “revised” or “new” records for the open systems upgrade. The reports are titled:

Both reports will be downloaded by the INCO team via the Internet. The reports are maintained on a secure web page by the NWS ROC. The web pages are generated from the ROC’s NEXRAD circuit database. This procedure assumes the INCO teams will have periodic access to an Internet connected PC or laptop PC and a printer.

1. Contact the WSR-88D Hotline at 1-800-643-3363 for the INCO team “Logon Name” and “Password”. The hotline specialists will have an updated list of all personnel authorized to access the secure web page. Simply identify your name and organization to the hotline specialist. Request the logon name and password for access to the secure web page, which contains INCO circuit reports for ECP 103.
2. Do not obtain the two site circuit reports more than one week in advance of INCO for a given RPG site. This will facilitate periodic corrections by ROC to the circuit reports if errors are found in the RPG site data.
3. Using a PC or laptop, access the Internet using either Netscape or Internet Explorer (preferred browser for this procedure). Go to the web page location: <http://www.osf.noaa.gov/ORPGINCO/>. Enter the logon name and password obtained from the WSR-88D Hotline (800-643-3363).
4. To obtain the “old” circuit report,” select the desired site name from the web page drop down list entitled “PRE ECP Circuit Report.” For quick access, type in the first letter of the sitename and then use the scroll feature of the drop down box to go to the exact site name. Highlight the desired site name and click the left mouse button. Then, left click using the mouse on the button entitled “Go!” to the right of the drop down list. The web browser will advance to the circuit report for the selected site.
  - a. To print the circuit report, first setup for Landscape print format:

**Internet Explorer:** Select File, then select the Page Setup item from the main menu drop down list. The “Page Setup” dialog box will appear on the screen. In

|      |           |         |     |
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the dialog box, select the “Landscape” button under the dialog box area titled Orientation. Select the “OK” button to close the dialog box and save the orientation setting. Then, Print from the File menu.

**Netscape:** Select File and then select Print from the File menu. Open the printer Properties dialog box, find the page Orientation section and select Landscape. Click “OK” to save the change and then click “**OK**” in the Print dialog box.

- b. If you cannot print, but need a copy of the circuit report to print later, then save the circuit report in .html format. Select File, then select the Save As item from the main menu drop down list. The “Save Web Page” or “Save as ...” dialog box will appear on the screen.

**Internet Explorer:** Select the HTML format from the “Save as type” drop down list if not already selected. Select Western European (Windows) from the Encoding drop down list if not already selected. Select the desired file location using the drop down list entitled “Save in.” The “File name:” box should already have a unique file name such as “ABERDEEN Pre-ECP Circuit Report” or “ABERDEEN Post-ECP Circuit Report”. Verify the name is correct and then click “**S**ave” to save the file.

**Netscape:** Select the desired file location using the drop down list entitled “Save in.” The “File name:” box will not have a unique name. Enter a unique name that identifies the site and if this is a pre-ECP or post-ECP report. Also, enter “.htm” as the file extension to ensure the file is saved in an HTML format. Then click “**S**ave” to save the file.

5. To obtain the “new” circuit report,” repeat step 4 except select desired site name from the web page drop down list entitled “POST ECP Circuit Report.” Repeat step 4a to print the report or step 4b to save the report.

When the actual INCO is completed at a given site, copies of these circuit reports can be turned over to the site operations and maintenance POCs.



## **16 Software**

Each site will require both ORPG Software and Site Specific Adaptation Data.

### **16.1 ORPG Software**

The ORPG Software will be on a CD. This software will be provided to the INCO team as part of their standard equipment. This software (2 copies) will also be sent to the site from the ROC. For sites with a RBDDS, an additional copy of this software will be sent to the RBDDS location from the ROC. This software will be maintained on site for ORPG maintenance needs.

### **16.2 Adaptation Data**

The site specific adaptation data will be on a 3 ½ “ floppy. This data will be provided to the site through a direct mailing from the ROC to the site. For OCONUS sites, this data will also be sent to the INCO team from the ROC. This data will be loaded on site and maintained on site for adaptation data maintenance needs.

**17 Verification Statement**

At the conclusion of RPG installation, checkout, and acceptance testing, a site representative will formally sign for the acceptance of the RPG hardware. The site representative will accept the equipment is both physically installed and functioning.

Reference Attachment L.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

|       |      |                 |
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## **18 Disposal of Removed and Replaced Parts/Materials**

The installation team will arrange, in coordination with the ROC (WSR-88D Hotline at 1-800-643-3363) for the shipment of the legacy cabinets back to the NRC.

All items which will be disposed of will be turn over to local site property manager. The local site property manager will dispose of these items IAW their agency's current policy.

Reference Attachment F.1.3

### **18.1 Legacy Parts to be moved from the Legacy RPG to the RPG**

Modems will be removed from legacy RPGs and installed into the rack positions of the RPG that correspond to site-specific circuit requirements for rewiring communication panels and installation of hardware. In addition, other site-specific hardware will also be moved from the legacy RPG to the RPG cabinet as required.

#### **18.1.1 DOC Systems**

Reference Attachment F.1.3

#### **18.1.2 DOC MLOS Systems**

Reference Attachment F.4.3

#### **18.1.3 DOD Systems**

Reference Attachment F.2.3

#### **18.1.4 DOT Systems**

Reference Attachment F.3.3

#### **18.1.5 DOC RPG Move Systems**

|       |           |          |        |
|-------|-----------|----------|--------|
| SIZE  | CAGE CODE | DWG NO.  | REV    |
| A     | 0WY55     | 2640002  | B      |
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## Reference Attachment F.5.3

**18.2 Legacy Parts to be returned to NRC for reuse**

Make a copy of this sheet and use it as a checklist for items to be return to NRC. When completed, make two copies, one to go to NRC with returned equipment, one to the ROC with other returned documentation.

| Item Checked | Item                            | Reference Designator | Part Number                                    |
|--------------|---------------------------------|----------------------|--|
|              | Cabinet(s)                      | UD21                 | P/N 1221815 (or 2 Bay UD21 1213450)            |
|              | Cabinet                         | UD22                 | P/N 1221816 ( or 1213454 used with 2 Bay UD21) |
|              | Modem Rack                      | UD22A1               | P/N 1219738-201 or 1219738-207 or 1219738-209  |
|              | I/O Panel*                      |                      | P/N 1525341-101                                |
|              | Power Filter                    | UD21FL1/UD22FL2      | P/N 1213645-201                                |
|              | RF Gasket (part of I/O Panel)*  |                      | P/N 1213847-202                                |
|              | I/O Gasket (part of I/O Panel)* | UD22A19W1            | P/N 1213850-201                                |
|              | AC Distribution Panel           | UD21A7               | P/N 93-ACUF00M00                               |
|              | Power Strip                     | UD22J23              | P/N 1217822-302                                |
|              | Converter (DOC only)            | UD22A8               | P/N 1213823-202 including power cord and cable |
|              | Adapter Panel                   | UD22A10/A15          | P/N 2200027-201                                |
|              | Adapter Panel                   | UD22A19              | P/N 1219734-201                                |
|              | Patch Panel                     | UD22A9               | P/N 1213826-201                                |
|              | Patch Panel                     | UD22A13              | P/N 1213826-201                                |
|              | Patch Panel                     | UD22A11/A17          | P/N 2200026-201                                |

|      |           |         |     |
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|  |                   |                                      |   |
|--|-------------------|--------------------------------------|---|
|  | Dial Modem        | UD22A1A1 THRU<br>UD22A1A21           | P/N 1219739-207 or 1219739-210 (only if<br>extra modems after standardized) |
|  | CSU (DOC only)    | UD22A4 (2-bay) or<br>UD21A17 (3-bay) | P/N 1222301-201 with power cord adapter                                     |
|  | Telco Cable       | UD22/122W32                          | P/N 1214789-301   |
|  | Telco Cable       | UD22/122W33                          | P/N 1214789-302   |
|  | Telco Cable       | UD22/122W19                          | P/N 1214789-303 or 1214790-301  |
|  | Telco Cable       | UD22/122W23                          | P/N 1214789-308   |
|  | Telco Cable       | UD22/122W20                          | P/N 1214790-302   |
|  | Telco Cable       | UD22/122W22                          | P/N 1214790-304   |
|  | Telco Cable       | UD22/122W21                          | P/N 1214789-307   |
|  | Telco Cable       | UD22/122W34                          | P/N 1214789-304   |
|  | Telco Cable       | UD22/122W35                          | P/N 1214789-305   |
|  | RRRAT Monitor**   | UD34A10                              | P/N 2300000-301   |
|  | RRRAT Processor** | UD34A9                               | P/N 2200015-201   |

\* These items will not be reused in the RPG; however, it is more convenient to leave them in place.

\*\* Applies only to DOD RRRAT Processor and Monitor, these items are not in the cabinet and are to be shipped separately.

### 18.3 Legacy parts to be left on site for disposal

INCO Team will take care not to damage or destroy these legacy parts unnecessarily during removal.

All items which will be disposed of will be turn over to local site property manager. The local site property manager will dispose of these items IAW their agency's current policy.

Reference Attachment S for a list of the legacy parts to be left on site for local disposal.

|      |           |         |     |
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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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|------------|-----------------|

**19 Pre-Installation Coordination**

At DOC sites, the ROC RPG deployment staff will coordinate with each site on final delivery and installation dates. ROC deployment team coordinators and deployment team members will coordinate with agency points of contact and local site staff to move, deactivate or otherwise modify circuits prior to arrival of installation team.

The ROC deployment team will coordinate with the AFALC for installation team travel, arrival, lodging, and vehicle requirements.

The ROC deployment team will coordinate with the NLSC for RPG hardware shipment and arrival including making certain that hardware has been shipped to the site prior to installation team arrival and that arrangements have been made for delivery of the RPG equipment to shelters as required.

The WSR-88D Hotline at 1-800-643-3363 will be the single POC for the INCO team. The Hotline will pass on all relevant information to the ROC deployment staff.

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|      |           |         |     |
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| SIZE | CAGE CODE | DWG NO. | REV |
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## **20 Procedures for Installation, Testing and Checkout of RPG**

### **20.1 On site in-briefing requirements**

The INCO team will provide an overview of Attachment A.

The installation team will conduct an in-brief to local site personnel on the installation process as a review/update to information provided to sites by the ROC prior to the INCO team arrival. The INCO team will review the following items previously provided by the ROC deployment team.

Prior to arrival of the INCO team, the ROC will inform the site of the following items:

Approximate dates the INCO team is expected at the local site

Sequence of site installation activities

Expected time to complete the entire installation

Expected down time of the WSR-88D

Site personnel participation in INCO

Pre-inspection procedure that will be completed as part of INCO

Acceptance Testing procedures and plans for formal turnover to local site

Instructions to call the WSR-88D Hotline (1-800-643-3363) with installation concerns.

### **20.2 Go to RPG location**

At most DOC sites the RPGs are located in the DOC Forecast Office. At all DOD sites it is located in a shelter which is normally some distance from the military base forecast office. DOT sites are often located in isolated areas with extremely difficult transportation and access requirements.

Reference Attachment B.

### **20.3 Inventory RPG hardware and document**

To ensure all hardware is on site the shipment must be inventoried.

Reference Attachment C.

### **20.4 Pre-inspect, test and document the legacy WSR-88D system status**

|       |           |          |        |
|-------|-----------|----------|--------|
| SIZE  | CAGE CODE | DWG NO.  | REV    |
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Before beginning installation work, the installation team must pre-inspect and document the WSR-88D system status with site staff so that agreement of the radar status prior to installation start is reached.

Reference Attachment D.

## **20.5 Install boxed items into RPG cabinet**

To minimize damage, some items will be shipped to sites in boxes rather than the cabinet. These items will have to be unpacked and installed in the cabinet by the INCO team.

Reference Attachment E.

## **20.6 Installation of RPG equipment**

Installation work will vary slightly depending on the basic RPG configuration. ROC engineers will use site survey information (Reference Section 22) to ensure that all work which must be done in advance of RPG installation is complete prior to scheduling the RPG installation. This includes running power and communications cables and installing new cables to the RDA shelter if necessary. If manpower is available, the MSCF installation can be done in parallel with the RPG installation work.

### **NOTE**

This plan refers to the RPG as UD70 (previously referred to as the Processor Cabinet {UD21} and Communications Cabinet {UD22}). Unless otherwise specified, for DOT redundant systems, this information also applies to RPG Processor/Communications Assembly UD170.

### **20.6.1 DOC standard configuration**

This configuration has the legacy RPG located in the DOC forecast office.

Reference Attachment F, Section F.1.

### **20.6.2 DOC collocated configuration**

|       |           |          |        |
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There are nine DOC sites that currently have the Legacy RPGs installed in the radar shelter. As part of the RPG installation, the installation team will remove the Legacy RPGs from the radar shelter and install the RPGs at the DOC Forecast Office.

Reference Attachment F, Section F.5.

#### 20.6.3 DOC Microwave Line of Sight (MLOS) configuration

In this configuration, MLOS transmission is used for the data link between the RDA and RPG.

Reference Attachment F, Section F.4.

#### 20.6.4 DoD configuration

At all DoD sites, the Legacy RPGs are located in an equipment shelter and RPGs will replace them in the same shelters. DoD shelters are at a location remote to the military base forecast office. MSCFs for most CONUS DoD RPGs will be installed in DOC forecast offices.

Reference Attachment F, Section F.2.

#### 20.6.5 DOT redundant configuration

The DOT sites are the most difficult RPG installations because each DOT site has two RDAs and two RPGs installed in an equipment shelter. In addition, most DOT sites are in isolated locations with extremely difficult transportation and access requirements.

Reference Attachment F, Section F.3.

### 20.7 Adaptation Data

The RPG provides the capability for on-line storage of all products. The RPG also provides the capability for defining and changing the product mix and retention time (up to a maximum of six hours) for products to be retained in the on-line RPG storage. This capability is controlled by input from the MSCF by means of site unique adaptation data.

Reference Attachment G.

|       |           |          |        |
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## **20.8 Testing**

Once the RPG is installed, the installation team will run a series of cabinet level and system level acceptance tests that will be witnessed by site representatives.

Reference Attachment H.

## **20.9 Arrange for Storage and Shipment of Legacy RPG**

The installation team will contact the Hotline (1-800-643-3363) to initiate the shipment of the legacy cabinets back to the NRC to be used as the basis for future RPG cabinets. The team will also coordinate with the local site and arrange for the storage of legacy RPG cabinets while awaiting shipment to the NLSC.

Reference Attachment I.

## **20.10 Get Legacy RPG Ready for Shipment**

Upon completion of RPG installation, checkout, test and formal acceptance, the Legacy RPG equipment will be disassembled, prepared for shipment and shipped to the NRC for reuse.

Reference Attachment J.

## **20.11 Clean-up**

The installation team will clean up any remaining RPG installation work and ensure that arrangements have been made with site representatives for the local disposal of legacy RPG parts that will not be shipped back to the NRC.

All items which will be disposed of will be turn over to local site property manager. The local site property manager will dispose of these items IAW their agency's current policy.

Reference Attachment K.

## **20.12 Documentation and Reporting**

|       |           |          |        |
|-------|-----------|----------|--------|
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Installation personnel will be required to complete a SAD, accountable property documentation, installation checklist, and formal acceptance sheet for each RPG, MSCF and RBDDS, and provide it to the ROC.

Reference Attachment M.

### **20.13 Formal Turnover**

Once the RPG is installed and passes the initial checkout, the installation team will run a series of system level acceptance tests witnessed by site representatives and obtain formal acceptance signatures from the sites representative.

Reference Attachment L.

|       |           |          |        |
|-------|-----------|----------|--------|
| SIZE  | CAGE CODE | DWG NO.  | REV    |
| A     | 0WY55     | 2640002  | B      |
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## 21 MSCF Installation

The MSCF is the man/machine interface that allows the operator and maintenance technician to interact with the RPG Processor operating system, application graphics, and maintenance programs. The MSCF provides control over the RPG processing functions by permitting the selection of products to be routinely generated and a product subset to be archived. It also provides the interface to access the operating system, initialize the RPG Processor, and perform first level analysis of system malfunctions.

The MSCF is comprised of a MSCF Processor Assembly UD71A1, a 21 inch Monitor UD71A2, a Keyboard UD71A3, a Mouse UD71A4, a Stand-alone Modem UD71A5 (Distant MSCFs only), an External JAZ Drive UD71A6, and Surge Suppressor UD71E1. In addition to the MSCF Workstation, most sites will also have an MSCF Color Printer UD79A1.

### 21.1 Local MSCF

DOC sites have a Local MSCF. The MSCF is located within the same building as the associated RPG and thus is referred to as a Local MSCF. For DOC systems, the MSCF has a direct TCP/IP path to the RPG Processor (through the Router). The Local MSCF is collocated with the associated user that supports editing of the RCM function.

Reference Attachment N.

### 21.2 Distant MSCF

At all DOT sites, the MSCF will be located in a remote DOC NWS Forecast Office. In Alaska, the Anchorage, Middleton Island, Bethel, and King Salmon MSCFs will be installed in the Anchorage WFO. The Sitka MSCF will be installed in the Juneau WFO. The Fairbanks and Nome MSCFs will be installed in the Fairbanks WFO.

At most DoD sites, the MSCF will be located in a remote DOC NWS Forecast Office. At Vandenberg AFB, the MSCF will be located at the base office. At OCONUS sites, the MSCF will be located at a DOD weather office.

Reference Attachment O.

|       |           |          |        |
|-------|-----------|----------|--------|
| SIZE  | CAGE CODE | DWG NO.  | REV    |
| A     | 0WY55     | 2640002  | B      |
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## 22 RBDDS Installation

DOD and DOT systems have the option of a RBDDS. The RBDDS is located not in the RPG cabinet but at a remote location. RBDDS consists of a Remote BDDS Processor UD72A1, a 17" Monitor UD72A2, a Keyboard UD72A3, a Mouse UD72A4, a Surge Suppressor UD72E1, a Table UD72MP1, a Cisco 2924 Remote LAN Switch UD73, and a Cisco 2621 Remote Router Assembly UD74A1.

Reference Attachment P.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
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## 23 Site Survey Information

The following information is required by the installation team and will be acquired from sites through a pre-installation survey, and in some cases an on-site visit.

### 23.1 All Sites

Information from most sites can be acquired through a written survey only. All sites will need to complete a written survey to answer the following:

### 23.2 NWS - Standard Configuration

#### 23.2.1 NWS RPG and MSCF Site Survey

#### NWS Site-Survey (Standard configuration - RPG not collocated with the RDA)

The following questions must be answered by each site in order to efficiently install the ORPG. Contact the ROC Hotline (1-800-643-3363) if questions arise about completing this survey.

SITE NAME AND ID \_\_\_\_\_ DATE \_\_\_\_\_

SITE POC \_\_\_\_\_ SITE PHONE \_\_\_\_\_

POC Fax Number \_\_\_\_\_ POC Email \_\_\_\_\_

On a separate sheet, please provide a sketch of the layout of the equipment room where your RPG currently resides. Please include measurements of door openings, and location of power sources and telco patch panels.

1. When the new system arrives, a dual cabinet assembly and two pallets of boxes will arrive the week before installation. These cabinets and pallets will require space approximately 12 by 5 ft. Will this be stored in the same building as the legacy RPG (YES/NO)? \_\_\_\_\_. If YES, can the cabinet assembly be rolled easily from the probable storage area to the final RPG location (YES/NO)? \_\_\_\_\_
2. If stored in separate building, is the building nearby, and could the cabinet assembly be rolled into the WSFO building with only minimal tilting at door entrances (YES/NO)? \_\_\_\_\_. If NO, please define the probable off-site storage situation: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Is any special equipment necessary or unique obstacles involved to get the RPG into position (YES/NO)? \_\_\_\_\_ If YES, please provide detail:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Are there access restrictions to the areas which the installation team will be in during the install (equipment rooms, telephone closets, etc (YES/NO)? \_\_\_\_\_ If YES, please provide list of restricted access areas, and points-of-contact (name, phone number) who have authority to grant access to those areas.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. Is there any issue with installing the ORPG in the same exact location as the existing RPG (YES/NO)? \_\_\_\_\_ If YES, please explain:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Is there enough room to move the cabinet assembly near the legacy RPG cabinets the afternoon before the main installation day (INCO Day 2) and leave in-place for that night (YES/NO)? \_\_\_\_\_
- Is the lighting adequate, or is additional work light needed for the areas where the RPG will be installed (YES/NO)? \_\_\_\_\_
7. If you originally had a 3 Bay legacy RPG system, has the 3 Bay system already been modified down to a 2 Bay system (YES/NO/NA)? \_\_\_\_\_
8. Is the UCP RRRAT (Wiretap) (or CDT-100 for NWS Redundant sites) still mounted on the original UCP Table (YES/NO)? \_\_\_\_\_
9. Is the UCP printer still sitting on the original UCP printer table (YES/NO)? \_\_\_\_\_
10. The new Master System Control Function (MSCF) Workstation will go in the same location as the present UCP. What is the minimal cable length of this location from the cabinets (take into account floor/ceiling routing)? \_\_\_\_\_ feet.
11. The new MSCF color printer should be somewhat near the MSCF workstation and can go in the same location as the present UCP printer if there is room for it. However, it is quite large (almost the size of

the original PUP printer) and there may not be room for it at the same location as the present UCP printer. In this case, an alternate location (on a table or stand) must be selected. For NWS sites, the color printer is connected to the cabinet I/O panel. For the proposed printer location, what is the minimal cable length of this location from the cabinets (take into account floor/ceiling routing)? \_\_\_\_\_ feet.

12. What is the minimal cable length of the AWIPS to the present RPG cabinet location (take into account floor/ceiling routing and up-routing into either of the AWIPS Plaintree switches)? \_\_\_\_\_ feet.
13. Does your site want to continue to use the UCP RRRAT (Wiretap) for dial-out access to the RDA (YES/NO)? \_\_\_\_\_.

If your answer is YES, the INCO team must relocate the components to another location within the office. From the MSCF location, this must be within 300 feet (cable run). What would be the minimal cable length to the new location (take into account floor/ceiling routing)? \_\_\_\_\_ feet.

If your answer is NO, the UCP RRRAT components will stay on-site to use as spares for the RDA MMI.

14. Were there any modifications made to the Legacy RPG other than the ones mandated by a Modification Note from the OSF/ROC? (e.g. earthquake precautions)

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15. At the left-rear of the legacy RPG cabinets, please annotate in the second column the cable numbers (Wx, Wxx, or Wxxx) entering the locations listed below. Some cable numbers may have a letter at the end such as "A" or "B" (e.g., W46A) and it is important that letter is annotated also. Locate the assembly part number (xxxxxxx-xxx) on the cable and annotate this information in column three. The part number label may be at one end or the other, but it will usually be near the center of the end-to-end run.

|                   | Wx, Wxx,<br>or Wxxx | Part Number<br>(xxxxxxx-xxx) |   |
|-------------------|---------------------|------------------------------|---|
| AC Power Into FL1 | _____               | _____                        | To AC Receptacle or Circuit Breaker Box |
| I/O Panel J1      | _____               | _____                        | To Telco Demarc                         |
| I/O Panel J2      | _____               | _____                        | To Telco Demarc                         |



|                                    |       |       |                                       |
|------------------------------------|-------|-------|---------------------------------------|
| I/O Panel J3                       | _____ | _____ | To Telco Demarc                       |
| I/O Panel J5                       | _____ | _____ | To RPGOP or AWIPS                     |
| I/O Panel J19                      | _____ | _____ | To RDA or Surge Suppressor Assemblies |
| I/O Panel J20<br>(MLOS sites only) | _____ | _____ | To MLOS Cabinet                       |

16. Does the legacy RPG cabinet ground cable have a black jacket, a green jacket, or no jacket (bared, tinned wires)? \_\_\_\_\_
17. Check the part number on the UD22/122W19 and UD22/122W21 cables between the dedicated patch and adapter panels (the UD22/122W21 is optional at many sites). What is the part number and REV Level on the cables?
- W19 - Part Number: \_\_\_\_\_ REV Level: \_\_\_\_\_
- W21 - Part Number: \_\_\_\_\_ REV Level: \_\_\_\_\_
18. What is the total number of dedicated modems installed in the Legacy RPG? \_\_\_\_\_
19. What is the total number of dial modems installed in the Legacy RPG? \_\_\_\_\_
20. The INCO team needs access to a dial phone line at the MSCF during the installation. This can be permanent or temporary line. Can this be provided? (YES/NO) \_\_\_\_\_
21. At the UCP, please open the following screen: AD,\*\*\*\*\*,NB,\*\*\*\*\*,VI. Is the Line 1 COMMS OPTION listed as a "Y" or an "N"? \_\_\_\_\_
22. Present AWIPS connectivity is via the 56K Data Converters in the RPG and UD41. Does your site still have the RPGOP and associated cabinet (UD41)? (YES/NO) \_\_\_\_\_
23. On the Legacy RPG cabinet currently at your site are there any property stickers YES/NO? \_\_\_\_\_

If the answer is YES, the stickers must be removed prior to INCO of the ORPG. Verify with Site Property Manager and Regional Property Manager to determine disposition of any property paperwork.

Upon receipt of the site survey, the ROC may contact the site to clarify issues. Please keep a copy of the completed survey onsite for future reference.

**23.3 DOD Sites - Standard Configuration of RPG collocated with RDA****23.3.1 DOD RPG Survey****DOD Site-Survey to be completed by DOD RPG Site****(Standard configuration - DOD RPG collocated with the DOD RDA, DOD UCP at NWS Office)**

The following questions must be answered by each DOD site in order to efficiently install the ORPG. Contact the ROC Hotline (1-800-643-3363) if questions arise about completing this survey.

SITE NAME AND ID \_\_\_\_\_

DATE \_\_\_\_\_

SITE POC \_\_\_\_\_

SITE PHONE \_\_\_\_\_

POC Fax Number \_\_\_\_\_

POC Email \_\_\_\_\_

On a separate sheet, please provide a sketch of the layout of the DOD RDA shelter where the RPG currently resides. Please include measurements of door openings (including heights of doorways), and location of power sources and telco patch panels.

1. It is preferred, for convenience, to have the ORPG cabinet and pallet delivered to the RDA site. The ORPG cabinet and all other equipment will require inside storage for approximately one week. The ORPG delivery will consist of an ORPG cabinet partially stocked and a pallet of additional equipment.
2. Shipment date and time can be narrowed down to ½ day. The site will need to provide a person to be at the RDA shelter for this ½ day period. When delivery is made it will need to be inspected for external visible damage and to ensure complete inside delivery of the ORPG shipment by the shipping company. Will the site provide a person to be on-site ready to take delivery for this ½ day period?  
(YES/NO) \_\_\_\_\_.
3. Does the RDA site have a TPMS shelter available for approximately one week of storage?  
(YES/NO) \_\_\_\_\_. (If “NO” skip to question #7.
4. If the ORPG cabinet is to be stored in the TPMS shelter, the site must provide necessary personnel (2-3) to assist the INCO team with moving the cabinet from the TPMS shelter into the RDA shelter.
5. Is the path, which will be used to move the ORPG cabinet, from the TPMS shelter to the RDA shelter dirt, gravel, or any other unpaved surface? (YES/NO) \_\_\_\_\_. If the answer is “YES” the site will

|      |           |         |     |
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need to work with the INCO team and acquire plywood to facilitate rolling the cabinet between shelters.

6. Is a 4-wheel flat dolly available (borrowed from supply or CE) to move the ORPG cabinets out of the TPMS shelter by tilting the ORPG cabinet out of the door and onto the flat dolly? (YES/NO) \_\_\_\_\_. If the answer is "NO", are ramps available to move the ORPG cabinet out of the TPMS shelter? (YES/NO) \_\_\_\_\_. If the answer is "NO" site personnel will need to work with INCO team members to rent, borrow, or build a temporary ramp.
7. If the RDA site has no TPMS shelter available, the ORPG cabinet will need to be placed in the RDA shelter. The pallet can be broken down and this additional equipment may be placed in the Generator shelter or in the RDA shelter. Will this plan be feasible for the site? (YES/NO) \_\_\_\_\_. If the answer is "NO" please suggest an alternative inside storage location. Please include the distance of the proposed location from the RDA shelter and plans to move the cabinet to the RDA shelter.
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
8. If you originally had a 3 Bay legacy RPG system, has the 3 Bay system already been modified down to a 2 Bay system? (YES/NO/NA) \_\_\_\_\_.
9. Were there any modifications made to the Legacy RPG cabinets other than the ones mandated by a Modification Note from the OSF/ROC? (e.g. earthquake precautions)
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

At the left-rear of the legacy RPG cabinets, please annotate in the second column the cable numbers (Wx, Wxx, or Wxxx) entering the locations listed below. Some cable numbers may have a letter at the end such as "A" or "B" (e.g., W46A) and it is important that letter is annotated also. Locate the assembly part number (e.g., 1214789-301) on the cable and annotate this information in column three. The part number label may be at one end or the other, but it will usually be near the center of the end-to-end run.

|                   | Wx, Wxx,<br>or Wxxx | Part Number<br>(xxxxxxx-xxx) |   |
|-------------------|---------------------|------------------------------|---|
| AC Power Into FL1 | _____               | _____                        | To AC Junction Box or Circuit Breaker Box |
| I/O Panel J1      | _____               | _____                        | To Telco Demarc                           |

|      |           |         |     |
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|               |       |       |                 |
|---------------|-------|-------|-----------------|
| I/O Panel J2  | _____ | _____ | To Telco Demarc |
| I/O Panel J3  | _____ | _____ | To Telco Demarc |
| I/O Panel J17 | _____ | _____ | To RDA          |
| I/O Panel J19 | _____ | _____ | To RDA          |

10. Check the part number on the UD22/122W19 and UD22/122W21 cables between the dedicated patch and adapter panels (the UD22/122W21 is optional at many sites). What is the part number and REV Level on the cables?

W19 - Part Number: \_\_\_\_\_ REV Level: \_\_\_\_\_

W21 - Part Number: \_\_\_\_\_ REV Level: \_\_\_\_\_

11. Does the legacy RPG cabinet ground cable have a black jacket, a green jacket, or no jacket (bared, tinned wires)? \_\_\_\_\_
12. What is the total number of dedicated modems (3263) installed in the Legacy RPG? \_\_\_\_\_
13. What is the total number of dial modems (3262) installed in the Legacy RPG? \_\_\_\_\_
14. Inspect the wall demarc blocks and note whether the second dedicated demarc block (TB4) has the additional ground rail installed (for providing the ground to EDCO Surge Protectors). Is the ground rail installed (YES/NO)? \_\_\_\_\_
15. What NWS site has physical possession of the DOD UCP? \_\_\_\_\_
16. Phone number for the NWS site with physical possession of the DOD UCP? \_\_\_\_\_

Upon receipt of the site survey, the ROC may contact the site to clarify issues. Please keep a copy of the completed survey onsite for future reference.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
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## 23.3.2 DOD MSCF Survey (Completed by NWS)

**DOD Site-Survey to be completed by NWS Office Where DOD UCP Resides**  
**(Standard configuration - DOD RPG collocated with the DOD RDA, DOD UCP at NWS Office)**

The following questions must be answered by each site in order to efficiently install the ORPG. Contact the ROC Hotline (1-800-643-3363) if questions arise about completing this survey.

SITE NAME AND ID \_\_\_\_\_

DATE \_\_\_\_\_

SITE POC \_\_\_\_\_

SITE PHONE \_\_\_\_\_

POC Fax Number \_\_\_\_\_

POC Email \_\_\_\_\_

1. Is the DOD UCP RRRAT (Wiretap) still mounted on the original UCP Table (YES/NO)? \_\_\_\_\_
2. Is the UCP printer still sitting on the original UCP printer table (YES/NO)? \_\_\_\_\_

**NOTE**

The new DOD Master System Control Function (MSCF) Workstation will go in the same location as the present DOD UCP.

3. The new DOD MSCF color printer should be somewhat near the DOD MSCF workstation and can go in the same location as the present DOD UCP printer if there is room for it. However, it is quite large (almost the size of the original PUP color printer) and there may not be room for it at the same location as the present UCP printer. In this case, an alternate location (on a table or stand) must be selected. For a printer connected off of a DOD MSCF, the color printer is connected to the MSCF.

For the proposed printer location, what is the minimal cable length of this location from the DOD MSCF (take into account floor/ceiling routing)? \_\_\_\_\_ feet.

4. The INCO team needs access to a dial phone line at the DOD MSCF during the installation. This can be permanent or temporary line. Can this be provided? (YES/NO)? \_\_\_\_\_
5. What is the dedicated line for the DOD MSCF certified for (it was originally only certified for 9.6K)?  
56K \_\_\_\_\_ 33.6K \_\_\_\_\_ 14.4K \_\_\_\_\_ 9.6K \_\_\_\_\_

Upon receipt of the site survey, the ROC may contact the site to clarify issues. Please keep a copy of the

|      |           |         |     |
|------|-----------|---------|-----|
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completed survey onsite for future reference.

### 23.3.3 On-Site Visit

An on-site visit will be required for at least Vandenberg AFB since they will be maintaining their MSCF and RBDDS on station.

|       |           |          |        |
|-------|-----------|----------|--------|
| SIZE  | CAGE CODE | DWG NO.  | REV    |
| A     | 0WY55     | 2640002  | B      |
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**23.4 DOT Sites - Standard Configuration****23.4.1 DOT RPG Survey****DOT Site-Survey to be completed by DOT RPG Site****(Standard configuration - Redundant System RPG collocated with RDA, DOC UCP at NWS Office)**

The following questions must be answered by each DOT site in order to efficiently install the ORPG. Contact the ROC Hotline (1-800-643-3363) if questions arise about completing this survey.

SITE NAME AND ID \_\_\_\_\_ DATE \_\_\_\_\_

SITE POC \_\_\_\_\_ SITE PHONE \_\_\_\_\_

POC Fax Number \_\_\_\_\_ POC Email \_\_\_\_\_

On separate sheets, please provide two sketches, on the first include the layout of the DOT RDA shelter where the RPG currently resides, on the second sketch please include outside area of shelter noting sidewalks, gravel, and any elevated platforms etc. Please include measurements of door openings, and location of power sources and telco patch panels.

1. It is preferred, for convenience, to have the ORPG cabinet and pallet delivered directly to the RDA site. The ORPG cabinet and all other equipment will require inside storage for approximately one week. The ORPG delivery will consist of an ORPG cabinet partially stocked and a pallet of additional equipment. Is there any foreseeable problem with direct delivery to the site and with storing this equipment inside the RDA shelter? (YES/NO) \_\_\_\_\_. If YES, please explain (ROC will initiate further coordination on delivery/relocation requirements): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. Shipment date and time can be narrowed down to 1 day (normal business hours). The site will need to provide a person to be at the RDA shelter for this 1 day period. When delivery is made it will need to be inspected for external visible damage and to ensure complete inside delivery of the ORPG shipment by the shipping company. Will the site provide a person to be on-site ready to take delivery for this 1 day period? (YES/NO) \_\_\_\_\_.

|      |           |         |     |
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3. Were there any modifications made to the Legacy RPG cabinets other than the ones mandated by a Modification Note from the OSF/ROC? (e.g. earthquake precautions)

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4. At the left-rear of the legacy RPG cabinets, please annotate in the second column the cable numbers (Wx, Wxx, or Wxxx) entering the locations listed below. Some cable numbers may have a letter at the end such as "A" or "B" (e.g., W46A) and it is important that letter is annotated also. Locate the assembly part number (e.g., 1214789-301) on the cable and annotate this information in column three. The part number label may be at one end or the other, but it will usually be near the center of the end-to-end run.

|                         | Wx, Wxx,<br>or Wxxx | Part Number<br>(xxxxxxx-xxx) |  |
|-------------------------|---------------------|------------------------------|--|
| UD22 AC Power Into FL1  | <hr/>               | <hr/>                        | To AC Junction Box or<br>Circuit Breaker Box |
| UD22 I/O Panel J1       | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD22 I/O Panel J2       | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD22 I/O Panel J3       | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD22 I/O Panel J17      | <hr/>               | <hr/>                        | To UD5 RDA or RMS                            |
| UD22 I/O Panel J19      | <hr/>               | <hr/>                        | To UD5 RDA                                   |
| UD22 I/O Panel J12      | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD22 I/O Panel J22      | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD122 AC Power Into FL1 | <hr/>               | <hr/>                        | To AC Junction Box or<br>Circuit Breaker Box |
| UD122 I/O Panel J1      | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD122 I/O Panel J2      | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD122 I/O Panel J3      | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD122 I/O Panel J17     | <hr/>               | <hr/>                        | To UD105 RDA or RMS                          |
| UD122 I/O Panel J19     | <hr/>               | <hr/>                        | To UD105 RDA                                 |
| UD122 I/O Panel J12     | <hr/>               | <hr/>                        | To Relay Box                                 |
| UD122 I/O Panel J22     | <hr/>               | <hr/>                        | To Relay Box                                 |

|      |           |         |     |
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5. Does the legacy RPG cabinet ground cables have a black jacket, a green jacket, or no jacket (bared, tinned wires)? \_\_\_\_\_
6. Channel 1: What is the total number of dedicated modems (3263) installed in the Legacy RPG?  
\_\_\_\_\_
7. Channel 1: What is the total number of dial modems (3262) installed in the Legacy RPG?  
\_\_\_\_\_
8. Channel 2: What is the total number of dedicated modems (3263) installed in the Legacy RPG?  
\_\_\_\_\_
9. Channel 2: What is the total number of dial modems (3262) installed in the Legacy RPG?  
\_\_\_\_\_
10. Inspect the wall demarc blocks and note whether the second dedicated demarc block (TB4) has the additional ground rail installed (for providing the ground to EDCO Surge Protectors). Is the ground rail installed (YES/NO)? \_\_\_\_\_
11. FAA WSR-88D systems currently configured to have two UCPs, one UCP under DOT control and one UCP under DOC control. Normally the DOT UCP is located at an FAA ARTCC or an FAA Maintenance Location and the DOC UCP is located at the NWS Forecast office. Please provide a UCP Location, POC name, and a phone number for each UCP.

DOT UCP Location: \_\_\_\_\_

DOT UCP POC: \_\_\_\_\_ Phone: \_\_\_\_\_

DOC UCP Location: \_\_\_\_\_

DOC UCP POC: \_\_\_\_\_ Phone: \_\_\_\_\_

Upon receipt of the site survey, the ROC may contact the site to clarify issues. Please keep a copy of the completed survey onsite for future reference.

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## 23.4.2 DOT MSCF Survey (Completed by NWS)

**DOT Site-Survey to be completed by NWS Office Where DOT UCP Resides**  
**(Standard configuration - Redundant System RPG collocated with RDA, DOT UCP at NWS Office)**

The following questions must be answered by each site in order to efficiently install the ORPG. Contact the ROC Hotline (1-800-643-3363) if questions arise about completing this survey.

SITE NAME AND ID \_\_\_\_\_

DATE \_\_\_\_\_

SITE POC \_\_\_\_\_

SITE PHONE \_\_\_\_\_

POC Fax Number \_\_\_\_\_

POC Email \_\_\_\_\_

1. Is the DOT UCP RRRAT (Wiretap) still mounted on the original UCP Table (YES/NO)? \_\_\_\_\_
2. Is there a printer connected with the DOT UCP (YES/NO)? \_\_\_\_\_ If so, is it still sitting on the original UCP printer table (YES/NO)? \_\_\_\_\_

**NOTE**

The new DOT Master System Control Function (MSCF) Workstation will go in the same location as the present DOT UCP.

3. The new DOT MSCF color printer should be somewhat near the DOT MSCF workstation and can go in the same location as the present DOT UCP printer if there is room for it. However, it is quite large (almost the size of the original PUP color printer) and there may not be room for it at the same location as the present UCP printer. In this case, an alternate location (on a table or stand) must be selected. For a printer connected off of a DOT MSCF, the color printer is connected to the MSCF.

For the proposed printer location, what is the minimal cable length of this location from the DOT MSCF (take into account floor/ceiling routing)? \_\_\_\_\_ feet.

4. The INCO team needs access to a dial phone line at the DOT MSCF during the installation. This can be permanent or temporary line. Can this be provided? (YES/NO)? \_\_\_\_\_
5. What is the dedicated line for the DOT MSCF certified for (it was originally only certified for 9.6K)?  
56K \_\_\_\_\_ 33.6K \_\_\_\_\_ 14.4K \_\_\_\_\_ 9.6K \_\_\_\_\_

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|------|-----------|---------|-----|
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Upon receipt of the site survey, the ROC may contact the site to clarify issues. Please keep a copy of the completed survey onsite for future reference.

### 23.4.3 On-Site Visit

An on-site visit will be required for at least one DOT site to inspect the shelter for DOT specific changes unknown to the ROC that may impede RPG installation.

|       |           |          |        |
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## 23.5 DOC RPG Move Sites

### 23.5.1 Written Survey

Information from these sites must be acquired through a written survey during the on-site visit of a ROC engineer. All sites will need to have completed the NWS Standard Site Survey (Section 23.2) and also have answered the following:

1. Is there a ground stud available in the Forecast office for the RPG?
2. Is there a power box available in the Forecast office for the RPG?
3. Distance to RPGOP?
4. Is Telco wired directly to the shelter or through an exchange box?
5. Is there space available in the Forecast Office for the RPG?
6. Distance to Communications Room and/or Demarc blocks
7. Type of RPGOP connection

### 23.5.2 On-Site Visit

An on-site visit will be required for all of the RPG Move sites to ensure the needs of each Forecast Office are met when the RPG is installed including cabling, communications, and space. The on-site survey will include completing the written survey, taking photographs as required, verifying what needs to be done on-site before the installation team arrives to install the RPG, and identifying anomalies of each site.

The On-Site Visit must occur approximately six months before installation to allow both the sites and the ROC enough time to implement necessary changes.

### 23.5.3 Pre-Installation Visit

A pre-installation visit will be required for all RPG Move sites. The pre-installation visit will occur the week before installation and will include the following:

1. Ensure all required changes have been implemented as identified by on-site visit for site survey
2. Install new surge suppressor in shelter, if required
3. Install new shelter wideband cabling between RDADP and shelter surge suppressor, if required. Route, but do NOT connect.
4. Install new surge suppressor in building, if required
5. Install and/or connect new building to shelter wideband cable, if required.
6. Install new building wideband cabling between new RPG location and new building

|      |           |         |     |
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- surge suppressor, if required
7. Install new building narrowband cabling between phone room and new RPG location, if required. Route, but do NOT connect.
  8. Re-label RDA

### **Attachment A: On-Site Briefing**

The installation team will conduct a brief to site staff on the RPG installation process to review and update information provided by the ROC prior to the INCO team's arrival. This majority pre-INCO information is provided in the cover letter for the site survey. Start a sign-up sheet for all meeting participants to list name, organization, and phone number. At the end of the meeting, make a copy for the site POC.

The INCO team will review the following items previously provided by the ROC.

Prior to arrival of the INCO team, the ROC will inform the site of the following items:

Actual dates the INCO team is expected to stay at the local site

Sequence of site installation activities

Expected time to complete the entire installation

Expected down time of the WSR-88D

Site personnel participation in INCO

Pre-inspection procedure that will be completed as part of INCO

Acceptance Testing procedures and plans for formal turnover to local site

Instructions to call the WSR-88D Hotline (1-800-643-3363) with installation concerns.

#### **A.1 Expected time required to complete the installation**

The installation team will refer to Table A.1.1-1 through Table A.1.4-4 on the following pages to explain expected installation and down-time to the site personnel.

|      |           |         |     |
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## A.1.1 DOC Standard Configuration

**Table A.1.1-1 DOC Installation and Checkout Daily Schedule**

| <b>RPG Installation and Checkout Daily Schedule DOC</b> |  | <b>Start Time</b> | <b>Total Hours</b> |
|---|--|-------------------|--------------------|
| <b>Day One</b>  | Present Site In-brief  | 0800              | 1                  |
|   | Perform Equipment Inventory  | 0900              | 1                  |
|   | Install RPG Boxed Hardware and Related Cables                                  | 1000              | 2                  |
|   | Move RPG Equipment into Place  | 1300              | 0.5 ***            |
|   | Perform Pre-install Checkout of WSR-88D and Document Status of Legacy RPG **** | 1330              | 1.5 *              |
|   | Finished for the day   | 1500              |                    |
| <b>Day Two</b>  | Shutdown Legacy RPG  | 0800              | 0.5                |
|   | Remove Equipment from Legacy RPG for Reuse in RPG                              | 0830              | 1                  |
|   | Disconnect Ground, Power and External Comm Cables                              | 0930              | 0.5                |
|   | Install RPG Equipment  | 1000              | 2                  |
|   | Re-label and Connect Ground, Power, and External Comm Cables for RPG           | 1200              | 1                  |
|   | Re-wire Demarcation Panel  | 1300              | 1                  |
|   | Power Up & Perform Cabinet Level Checkout of the RPG                           | 1400              | 1*****             |
|   | Resolve Critical Issues  | 1500              | 2                  |
|   | Perform Overnight Burn-in  | 1700              |                    |
| <b>Day Three</b>  | Return in the Morning and Verify Status of RPG                                 | 0800              | 0.5                |
|   | Resolve Problems If Required   | 0800              | 1.5                |
|   | Power Down & Disassemble UCP   | 0930              | 0.5                |
|   | Install Local MSCF Equipment   | 1000              | 1.5                |
|   | Re-label and Connect Ground, Power, and External Comm Cables for MSCF          | 1130              | 0.5                |
|   | Power UP & Perform Checkout of Local MSCF *****                                | 1200              | 1.0                |
|   | Resolve Problems If Required   | 1300              | 1.5                |
|   | OPS Assessment Test (occurs concurrently while INCO team continues work)       | 1430              | 4**                |
|   | Relocate UCP/RRRAT (Wiretap)   | 1430              | 1                  |
|   | Prepare Legacy Equipment for Shipment  | 1530              | 1                  |
|   | Prepare Legacy Equipment for Disposal  | 1630              | 1                  |
|   | Clean up   | 1730              | 0.5                |
| <b>Day Four</b>   | Return in the Morning and Verify Status of RPG                                 | 0800              | 0.5                |
|   | Resolve Problems If Required   | 0830              | 1.5                |
|   | Update SAD   | 1000              | 0.5                |
|   | Complete Other Documentation as Required                                       | 1030              | 0.5                |
|   | Formal Turnover of RPG   | 1100              | 1                  |
|   | Depart Site  | 1200              |                    |

Note: Shaded area indicates time the system is down for installation and checkout

\* Indicates time for pre-test. Approximately 1/3 of this time is downtime.

\*\*System is operational during this testing but not yet accepted. Performed by site personnel.

\*\*\*If stored in the same building.

\*\*\*\*Unless severe weather is occurring, perform this at the end of the first day. Otherwise, perform at the beginning

|      |           |         |     |
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of Day Two.

\*\*\*\*\*Approximately 2 hours if software must be reloaded.

\*\*\*\*\*Includes establishment of user accounts, adaptation data installation, and software re-load if necessary.

|       |           |          |        |
|-------|-----------|----------|--------|
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| A     | 0WY55     | 2640002  | B      |
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## A.1.2 DOC RPG Move Configuration

**Table A.1.2-1 DOC RPG Move Installation and Checkout Daily Schedule**

| <b>RPG Installation and Checkout Daily Schedule DOC RPG Move Site</b> |  | <b>Start Time</b> | <b>Total Hours</b> |
|---|--|-------------------|--------------------|
| <b>Day One</b>  | Present Site In-brief  | 0800              | 1                  |
|   | Verify That All Required Communications Wiring Changes Are Complete                                      | 0900              | 2                  |
|   | Perform Equipment Inventory  | 1100              | 1                  |
|   | Install RPG Boxed Hardware and Related Cables  | 1200              | 2                  |
|   | Move RPG into related Forecast Office and pre-stage MSCF hardware near UCP table                         | 1400              | 0.5 ***            |
|   | Arrive at RDA Shelter and Perform Pre-install Checkout of WSR-88D and Document Status of Legacy RPG **** | 1430              | 1.5 *              |
|   | Finished for the Day   | 1600              |                    |
| <b>Day Two</b>  | Shutdown Legacy RPG  | 0800              | 0.5                |
|   | Remove Equipment from Legacy RPG for Reuse in RPG  | 0830              | 1                  |
|   | Disconnect Ground, Power and External Comm Cables  | 0930              | 0.5                |
|   | Power Down and Disassemble UCP   | 1000              | 1                  |
|   | Transport Equipment Removed from Legacy RPG to Weather Forecast Office                                   | 1100              | 1                  |
|   | Install RPG Equipment  | 1200              | 2                  |
|   | Re-label and Connect Ground, Power, and External Comm Cables for RPG                                     | 1400              | 1                  |
|   | Re-wire Demarcation Panel  | 1500              | 1                  |
|   | Power up & Perform Cabinet Level Checkout of the RPG   | 1600              | 1*****             |
| <b>Day Three</b>  | Perform Overnight Burn-in  |                   |                    |
|   | Return in the Morning and Verify Status of RPG   | 0800              | 0.5 *              |
|   | Resolve Problems If Required   | 0800              | 1.5 *              |
|   | Install Local MSCF Equipment   | 0930              | 2                  |
|   | Re-label and Connect Ground, Power, and External Comm Cables for MSCF                                    | 1130              | 0.5                |
|   | Power Up & Perform Checkout of Local MSCF*****   | 1200              | 1.0                |
|   | Resolve Problems If Required   | 1200              | 1.5                |
|   | OPS Assessment Test (occurs concurrently while INCO team continues work)                                 | 1330              | 4**                |
|   | Relocate UCP/RRRAT (Wiretap)   | 1330              | 1                  |
|   | Go to RDA Shelter and Prepare Legacy RPG for Shipment  | 1430              | 1                  |
|   | Prepare Legacy Equipment for Disposal  | 1530              | 0.5                |
|   | Clean up   | 1600              | 0.5                |
| <b>Day Four</b>   | Return in the Morning and Verify Status of RPG   | 0800              | 0.5 *              |
|   | Resolve Problems If Required   | 0830              | 1.5 *              |
|   | Update SAD   | 1000              | 0.5                |
|   | Complete Other Documentation as Required   | 1030              | 0.5                |
|   | Formal Turnover of RPG   | 1100              | 1                  |
|   | Depart Site  | 1200              |                    |

Note: Shaded area indicates time the system is down for installation and checkout

\* Indicates time for pre-test. Approximately 1/3 of this time is downtime.

\*\*System is operational during this testing but not yet accepted. Performed by site personnel.

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\*\*\*If stored in the same building.

\*\*\*\*Unless severe weather is occurring, perform this at the end of the first day. Otherwise, perform at the beginning of Day Two.

\*\*\*\*\*Approximately 2 hours if software must be reloaded.

\*\*\*\*\*Includes establishment of user accounts, adaptation data installation, and software re-load if necessary.

|       |           |          |        |
|-------|-----------|----------|--------|
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## A.1.3 DOD Configuration

**Table A.1.3-1 DOD RPG/Distant MSCF/RBDDS INCO Daily Schedule**

| Day        | Start Time | RPG On Base                           | Total Hours | RPG At RDA Site                       | Total Hours | Distant MSCF / RBDDS  | Total Hours |
|------------|------------|---------------------------------------|-------------|---------------------------------------|-------------|---|-------------|
| <b>One</b> | 0800       | Arrive at Base                        |             | Arrive at Base                        |             | Arrive at MSCF Site   |             |
|            | 0830       | Present Site In-brief                 | .5          | Present Site In-brief                 | .5          | Present Site In-brief   | .5          |
|            | 0900       | Inventory                             | 1           | Travel to Site                        | 1           | Inventory   | 1           |
|            | 1000       | Transport RPG to Site Eq. Shelter     | 3           | Inventory                             | 1           | Survey UCP/RBDDS *****<br>Location/Comms                                    | 1           |
|            | 1100       |                                       |             | Place RPG in Eq. Shelter              | .5          | Assemble RBDDS Stand  | 1           |
|            | 1130       |                                       |             | Install Boxed Hardware                | 1           |   |             |
|            | 1400       | Install Boxed Hardware                | 1           | Survey/Mark Demarcs                   | 1           | Perform System Level Legacy Pre-Checks                                      | 1           |
|            | 1500       | Comms Legacy Pre-Checks               | 1*          | Comms Legacy Pre-Checks               | 1*          | Comms Legacy Pre-Checks   | 1*          |
|            | 1600       | Survey/Mark Demarcs                   | 1           | Return to Base                        | 1           | Finished for the day  |             |
|            | 1700       | Return to Base                        | 1           | Finished for the day                  |             |   |             |
| <b>Two</b> | 1800       | Finished for the day                  | 1           |                                       |             |   |             |
|            | 0700       | Travel to Site                        | 1           | Travel to Site                        | 1           |   |             |
|            | 0800       | Shutdown Legacy RPG                   | .5          | Shutdown Legacy RPG                   | .5          | Shutdown Remote UCP   | .5          |
|            | 0830       | Move Equipment from Legacy RPG to RPG | 1           | Move Equipment from Legacy RPG to RPG | 1           | Disassemble Remote UCP/Disconnect Cables                                    | 1           |
|            | 0930       | Disconnect Cables From Legacy RPG     | .5          | Disconnect Cables From Legacy RPG     | .5          | Assemble Distant MSCF/Connect Cables  | 1           |
|            | 1000       | Remove Legacy RPG from Shelter        | .5          | Remove Legacy RPG from Shelter        | .5          |   |             |
|            | 1030       | Place RPG in Position                 | .5          | Place RPG in Position                 | .5          | Power Up/Checkout MSCF  | 2**         |
|            | 1100       | Connect/Label Cables                  | .5          | Connect/Label Cables                  | .5          |   |             |
|            | 1130       | Rewire Demarcation                    | 1           | Rewire Demarcation                    | 1           |   |             |
|            | 1230       | Power Up/Checkout RPG                 | 2**         | Power Up/Checkout RPG                 | 2**         |   |             |
|            | 1330       |                                       |             |                                       |             | Assemble RBDDS and Connect Cables   | 1           |
|            | 1430       |                                       |             |                                       |             | Power Up/Check RBDDS  | 1           |
|            | 1530       | Prep for Ops Assessment/ Burn-In      | .5***       | Prep for Ops Assessment/ Burn-In      | .5***       | Prep for Ops Assessment/ Burn-In  | .5***       |
|            | 1600       | Return to Base                        | 1           | Return to Base                        | 1           | Ops Assessment***** can start if desired.<br>INCO Team finished for the day |             |

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|              |      |  |     |  |    |   |    |
|--------------|------|--|-----|--|----|---|----|
|              | 1700 | Finished for the day   | 1   | Finished for the day   | 1  |   |    |
| <b>Three</b> | 0700 | Travel to Site   | 1   | Travel to Site   | 1  | Verify Status/Correct Problems  | 1  |
|              | 0800 | Verify Status/Correct Problems                                 | 1   | Verify Status/Correct Problems                                 | 1  | Ops Assessment**** (if not already done, concurrent with other INCO activities) | 4  |
|              | 0900 | Prepare Legacy Eq. for Disposal and Prep Cabinets for Shipment | 2   | Prepare Legacy Eq. for Disposal and Prep Cabinets for Shipment | 2  | Prepare UCP RRRAT for Shipment  | 1  |
|              | 1000 |  |     |  |    | Cleanup   | .5 |
|              | 1030 |  |     |  |    | Complete Required Documentation   | 1  |
|              | 1100 | Cleanup  | .5  | Cleanup  | .5 |   |    |
|              | 1130 | Transport Cabinets/Eq. to Base if Required                     | 2.5 | Return to Base   | 1  |   |    |
|              | 1330 |  |     | Complete Required Documentation                                | 1  | Formal Turnover of MSCF   | 1  |
|              | 1430 |  |     | Formal Turnover of RPG   | 1  | MSCF INCO Completed   |    |
|              | 1500 | Complete Required Documentation                                | 1   |  |    |   |    |
|              | 1530 |  |     | RPG INCO Completed   |    |   |    |
|              | 1600 | Formal Turnover of RPG   | 1   |  |    |   |    |
|              | 1700 | RPG INCO Completed   |     |  |    |   |    |

Note: Shaded area indicates time the system is down for installation and checkout

\* Short communications disruptions will occur during this period. If severe weather is occurring, this may be moved to the beginning of Day 2.

\*\* This will take approximately an hour longer if a full software load is required. Plan on lunch break after software load starts (approximately 45 minutes of non-interaction time at this point). System level checks at the MSCF can not be completed until after the RPG software load is completed and/or the RPG is booted.

\*\*\* System is operational but not formally accepted.

\*\*\*\* Performed by site personnel.

\*\*\*\*\* RBDDS is only required in conjunction with installations of Columbus AFB, Eglin AFB, Holloman AFB, and Vandenberg AFB RPGs. RBDDS may or may not be at the same location as the Distant MSCF. Additional travel time may occur or the RBDDS may be installed by ROC personnel if the two locations are not close to each other.

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## A.1.4 DOT Configuration

**Table A.1.4-1 DOT RPG and Distant MSCF INCO Daily Schedule**

| Day          | Start Time | RPG Site/Personnel   | Total Hours | Start Time | Distant MSCF Site/Personnel            | Total Hours |
|--------------|------------|--|-------------|------------|--|-------------|
| <b>One</b>   | 0730       | Arrive at SMO in-brief location *****  |             |            |  |             |
|              | 0800       | Present management in-brief, risk mitigation                                   | 2           |            |  |             |
|              | 1300       | Travel to RPG site   | 3           |            |  |             |
|              | 1600       | Finished for the day   |             |            |  |             |
| <b>Two</b>   | 0730       | Arrive at maintenance in-brief location  |             | 0730       | Arrive at NWS office                   |             |
|              | 0800       | Present site in-brief  | 1           | 0800       | Present site in-brief                  | 1           |
|              | 0900       | Inventory  | 2           | 0900       | Inventory                              | 1           |
|              |            |  |             | 1000       | Preliminary checkout of MSCF equipment | 2           |
|              | 1200       | Transport equipment to site (this could take up to one full day in some cases) | 2           |            |  |             |
|              |            |  |             | 1300       | Start legacy system pre-checks         | 1           |
|              | 1400       | Unpack equipment. Assist with legacy system comm checks                        | 2.5         | 1400       | Legacy system comm checks              | 2*          |
|              | 1600       |  |             | 1600       | Verify Channel 2 in control            | .5          |
| <b>Three</b> | 1630       | Finished for the day   |             | 1630       | Finished for the day                   |             |
|              | 0700       | Prep for Channel 1 install (INCO and Installer)                                | 1           |            |  |             |
|              | 0800       | Cabinet Disassembly (INCO and Installer)                                       | 1.5         |            |  |             |
|              | 0930       | Cabinet Assembly (Installer with INCO help)                                    | 5.5         |            |  |             |
|              | 1100       | Rewire Relay Box   | 3           |            |  |             |
|              | 1600       | Finished for the day   |             |            |  |             |
|              |            |  |             |            |  |             |

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|             |      |   |       |      |   |     |
|-------------|------|---|-------|------|---|-----|
| <b>Four</b> | 0700 | Channel 1 cabinet assembly continues (Installer with INCO help)                                   | 7.5   | 0700 | Travel to FAA UCP location  | .5  |
|             | 1200 | Reallocate modems relabel cables, route new external cables, and reconnect external cables (INCO) | 3     | 0730 | Bypass FAA UCP (connect dedicated circuits) if necessary. Assist with FAA UCP removal if necessary. | 3   |
|             |      |   |       | 1030 | Return to MSCF site   | .5  |
|             |      |   |       | 1200 | Prep for MSCF installation  | 2   |
|             | 1530 | Turn-on Channel 1 for burn-in. Check LAN connectivity.  | .5    |      |   |     |
|             | 1600 | Finished for the day  |       | 1600 | Finished for the day  |     |
| <b>Five</b> | 0700 | Perform initial Channel 1 Checkout tests (INCO)   | 1.5** | 0700 | Install MSCF and complete MSCF Checkout   | 4   |
|             | 0830 | Switch Control to Channel 1 and check wideband functionality (INCO)                               | 1     |      |   |     |
|             | 0930 | Rewire demarcs (INCO)   | 2     |      |   |     |
|             | 1230 | Complete Channel 1 checkout (INCO)  | 1.5   |      |   |     |
|             | 1400 | Resolve issues  | 2     | 1400 | Resolve issues  | 2   |
|             | 1600 | Finished for the day - Channel 1 Ops Assessment starts ****                                       | ***   | 1600 | Finished for the day - Channel 1 Ops Assessment starts ****   | *** |
| <b>Six</b>  | 0700 | Prep for Channel 2 install (INCO and Installer)   | 1     |      |   |     |
|             | 0800 | Cabinet Disassembly (INCO and Installer)  | 1.5   |      |   |     |
|             | 0930 | Cabinet Assembly (Installer with INCO help)   | 5.5   |      |   |     |
|             | 1300 | Assist with transport/disposal of legacy parts, start site clean-up (INCO)                        | 3     |      |   |     |
|             | 1600 | Finished for the day  |       |      |   |     |

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|              |      |   |     |      |   |     |
|--------------|------|---|-----|------|---|-----|
| <b>Seven</b> | 0700 | Channel 2 cabinet assembly continues (Installer with INCO help)                                   | 7.5 |      |   |     |
|              | 1200 | Reallocate modems relabel cables, route new external cables, and reconnect external cables (INCO) | 3   |      |   |     |
|              |      |   |     |      |   |     |
|              | 1530 | Turn-on Channel 2 for burn-in. Check LAN connectivity.  | .5  |      |   |     |
|              | 1600 | Finished for the day  |     |      |   |     |
| <b>Eight</b> | 0700 | Perform initial Channel 2 Checkout tests (INCO)   | 1.5 | 0700 | Reverify MSCF operation on Channel 1.                                       | 1.5 |
|              | 0830 | Switch Control to Channel 2 and check wideband functionality (INCO). Channel control tests.       | 2.0 | 0830 | Channel control tests. Validate MSCF operation on Channel 2.                | 3   |
|              | 1030 | Complete Channel 1 checkout (INCO)  | 1.5 |      |   |     |
|              | 1300 | Resolve issues  | 3   | 1300 | Resolve issues  | 3   |
|              | 1600 | Finished for the day - Channel 2 and full system Ops Assessment starts ****                       | *** | 1600 | Finished for the day - Channel 2 and full system Ops Assessment starts **** | *** |
| <b>Nine</b>  | 0700 | Final site clean-up. Complete paperwork   | 4   | 0700 | Final site clean-up. Complete paperwork.                                    | 4   |
|              | 1300 | Site out-brief *****  | 1   | 1300 | Site out-brief  | 1   |
|              | 1400 | INCO completed. Prep for return travel  |     | 1400 | INCO completed. Prep for return travel                                      |     |

Note: Shaded area indicates time the system is down for installation and checkout. For DOT systems, this only reflects when neither Channel can be utilized in a fully operational manner.

\* Short communications disruptions will occur during this period. If severe weather is occurring, this may be moved to the beginning of Day 2.

\*\* This will take approximately an hour longer if a full software load is required.

\*\*\* System is operational but not formally accepted.

\*\*\*\* Performed by NWS site personnel.

\*\*\*\*\* The SMO briefing should only be necessary at the beginning of the final three Hawaii installations.

\*\*\*\*\* In most cases, this out-brief will be with the local Sector Field Office (SFO). After the final three Hawaii installations, the final out-brief may be at the SMO.

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## A.2 Local down time of the WSR-88D system

The objective at all radar sites during RPG installations is to ensure the radar is not down more than a single workday per RPG installed. Table A.2-1 explains expected installation and down-time.

**Table A.2-1 Anticipated Installation, Checkout and System Downtime**

| Site Type         | Days at Site | Total Work Hours | Total Downtime Hours |
|-------------------|--------------|------------------|----------------------|
| DOC               | 3            | 32               | 9-11                 |
| DOC RPG Move Site | 3.5          | 40               | 7-9                  |
| DOD               | 3            | 32               | 13                   |
| DOT               | 4            | 64               | 5                    |

## A.3 Local site staff assistance during installation and checkout

1. Receive and inspect incoming shipments. Report evident external damage immediately to ROC Hotline (1-800-643-3363)
2. Store new system prior to install
3. Participate in install, particularly communications reconfiguration
4. Witness testing
5. Act as a consultant for cable routing and equipment location.
6. Operator participation in Day 3 afternoon testing (Attachment X)
7. Formally accept ORPG for operational use
8. Store legacy system prior to shipment or disposal
9. Dispose of equipment not to be returned to the NRC, IAW their agency's current policy.
10. Complete property accounting paperwork as necessary.

## A.4 Pre-Inspection Procedures

The INCO team should go over the pre-inspection and checkout procedures for the legacy RPG with site personnel.

Reference Attachment D.

## A.5 Procedures for acceptance testing and formal turnover of RPG

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The INCO team should go over the procedures for final testing and formal turnover of the RPG with site personnel.

Reference Attachment H and Attachment L.

#### **A.6 Site personnel questions and concerns**

The INCO team should go over any questions and concerns the site personnel may have including current weather conditions. The INCO team should also provide contingency information to the site personnel (Attachment W).

Reference Attachment W

#### **A.7 Provide site personnel contact information for INCO team**

The INCO should provide the site personnel all pertinent contact information for the INCO team including hotel, phone numbers, and personnel names.

Also, ask site personnel to provide phone numbers for in-coming phone calls and faxes to INCO team personnel.

#### **A.8 Reproduce Paperwork**

Make copies of Tables 11-2 through 11-7, Section 18.2 inventory checklist, the Attachment C inventory pages, Attachment M Checklists (section M.7), and Figure U.1 Punch Down Block Wiring Diagram (2 copies). When equipment inventory is performed, use the Attachment C inventory sheets to check-off items as they are inventoried. Complete the Section M.7 Checklists as INCO segments are completed. These items will be shipped back to the ROC in the Fedex envelope along with other documentation items required by Attachment M. Make a copy of Attachment X (Operational Assessment) for the Operator's Check (end of day 3).

For DOC sites, as soon as the cabinets are unpacked, make copies of the CD509 forms (with CD numbers annotated, see Section M.3) and provide copies to the site MIC/ESA with areas marked which will require site completion. This will start the coordination process on these forms.

For DOD sites, as soon as the cabinets are unpacked, make copies of the AFTO Form 217 and provide copies to the site property custodian with areas marked which will require site completion. This will start the coordination process on these forms. This form serves the dual purpose of receipt of accountable property and site acceptance.

For all DOC sites and Remote BDDS installations, make a copy of Attachment Y and provide this to the site System Administrator. The System Administrator, in coordination with the BDDS clients, will need to establish the necessary BDDS interconnections after the RPG is installed. For DOC sites, this is only necessary if the site presently has a RIDD box connected.

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**A.9 Print Narrowband Circuit Reports**

If the Pre and Post NCRs for this site are not already printed for this site, ask site personnel if you can use an office PC with an Internet connection and printer. Print both NCRs IAW paragraph 15.2.2. If an Internet connection is not available, contact the ROC Hotline (1-800-643-3363) and ask them to fax the circuit reports to this site.

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**Attachment B: Travel to Remote Locations, as Required**

Travel arrangements will be addressed by Hill AFB travel organizations. Shipping is addressed by NLSC.

**B.1 DOD RPGs**

At all DOD sites, the legacy RPG is located in the RDA equipment shelter which is normally located at some distance from the military base forecast office. In these situations, installation teams may be required to travel to relatively isolated locations.

**B.2 DOT RPGs**

For DOT sites, the installation teams will initially travel to a DOT center to in-brief DOT staff, and to finalize personnel and hardware transportation to the RDA site if required.

In Puerto Rico and Hawaii, the installation teams may need to use rental trucks to transport the equipment from the delivery point on the relevant island to the RDA site, although commercial delivery to the RDA shelters will be the initial goal.

In Hawaii, the NLSC/NRC will arrange transportation of RPG hardware to a site on the same island as the RDA shelter. If the equipment can not be delivered to the shelter, the installation teams may be required to transport the RPG hardware from the shipping arrival point to the RDA shelter.

In remote Alaska locations such as Sitka, Middleton Island, King Salmon, Nome and Bethel, the DOT will assist in arranging personnel transportation from Anchorage, Fairbanks or Juneau to the RDA site, and provide vehicles at the remote location. The installation team will provide transportation and rental cars for staff remaining at Anchorage, Fairbanks and Juneau to install MSCF hardware.

**B.3 DOD and DOT RPGs**

The third INCO technician will travel to the legacy UCP/new MSCF location to perform legacy pre-checks and MSCF installation.

**B.4 DOC RPG Move Sites**

There are nine DOC Limited Production Phase (LPP) sites that currently have legacy RPGs installed in the radar shelter with the RDA. In all but one case, the shelters are near the corresponding DOC WFO. The installation team will remove the legacy RPG from the RDA shelter and install the RPG in the related forecast office.

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**Attachment C: Inventory and Document**

The installation team must inventory the RPG equipment upon arrival on site. The following table lists the items shipped to the site from NLSC and must be on site for installation. If items are not received, fill in the site name below, check the appropriate box in the last column and fax the list to (405) 366-2955.

SITE: \_\_\_\_\_

**Table C-1 Items Shipped to Site from NLSC**

| Item  | Part Number     | National Stock Number | DOC QTY | DoD QTY | DOT QTY | Missing Items |
|---|-----------------|-----------------------|---------|---------|---------|---------------|
| <b>RPG Equipment</b>  |                 |                       |         |         |         |               |
| RPG Cabinet Pair, populated with all items except those packed separately |                 |                       | 1       | 1       | 2       |               |
| RPG Processor with Keyboard and Mouse                                     | 2300016-301     |                       | 1       | 1       | 2       |               |
| BDDS Processor  | 2300015-301     |                       | 1       | 0       | 0       |               |
| JAZ Drive (power supply in cabinet)                                       | 2210008-207     | 7025-01-481-7102      | 1       | 1       | 2       |               |
| 17" Monitor   | 2210035-201     | 7025-01-463-4951      | 1       | 1       | 2       |               |
| W46 (25 pair Telco)   | 1214868-307**** |                       | 0       | 1**     | 0       |               |
| W46 (25 pair Telco)   | 1214868-310     |                       | 0       | 0       | 1*****  |               |
| W113 (red Ethernet, 50 feet)  | 2320047-305     |                       | 0       | 0       | 1       |               |
| W114 (red Ethernet, 50 feet)  | 2320047-305     |                       | 0       | 0       | 1       |               |
| W164 (25 pair Telco)  | 2320064-303     |                       | 0       | 0       | 1**     |               |
| W340 (blue Ethernet)  | 2320047-xxx***  |                       | 1       | 0       | 0       |               |
| W171 (25 pair Telco)  | 2320064-306     |                       | 0       | 0       | 1**     |               |
| <b>MSCF Equipment</b>   |                 |                       |         |         |         |               |

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| Item  | Part Number    | National Stock Number | DOC QTY | DoD QTY | DOT QTY | Missing Items |
|---|----------------|-----------------------|---------|---------|---------|---------------|
| MSCF Processor  | 2300015-302    |                       | 1       | 1*      | 1*      |               |
| 21" Monitor   | 2210036-201    | NWS0-01-600-0005      | 1       | 1*      | 1*      |               |
| JAZ Drive   | 2210008-207    | 7025-01-481-7102      | 1       | 1*      | 1*      |               |
| Keyboard  | 2210009-203    |                       | 1       | 1*      | 1*      |               |
| Mouse   | 2210009-204    |                       | 1       | 1*      | 1*      |               |
| Color Printer   | 2210030-201    | 7025-01-480-0036      | 1       | 1*      | 1*      |               |
| Standalone Modem  | 1219739-211    | 5895-01-481-8672      | 0       | 1*      | 1*      |               |
| W129 (AC power)   | 2320049-303    |                       | 1       | 1*      | 1*      |               |
| W331 (red Ethernet)   | 2320047-xxx*** |                       | 1       | 0       | 0       |               |
| W332 (blue Ethernet)  | 2320047-xxx*** |                       | 1       | 0       | 0       |               |
| W333 (red Ethernet)   | 2320047-xxx*** |                       | 0       | 1*      | 1*      |               |
| W910 (dial phone cable) (required only if Wiretap/RRRAT will be reused by site) | 2320062-xxx*** |                       | 1       | 0       | 0       |               |
| 71CP1/CP2 (duplex jacks)  | 2200019-201    |                       | 2       | 2*      | 0       |               |
| 71W187 (AC power)   | 2320049-303    |                       | 1       | 1*      | 1*      |               |
| 71W188 (AC power)   | 2320049-303    |                       | 1       | 1*      | 1*      |               |
| 71W189 (AC power)   | 2320049-303    |                       | 0       | 1*      | 1*      |               |
| 71W190 (AC power with Adapter - may be packed with MSCF Jaz Drive)              | 2320049-303    |                       | 1       | 1*      | 1*      |               |

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| Item   | Part Number     | National Stock Number | DOC QTY       | DoD QTY       | DOT QTY       | Missing Items |
|--|-----------------|-----------------------|---------------|---------------|---------------|---------------|
| 71W211 (SCSI)  | 2320053-301     |                       | 1             | 1*            | 1*            |               |
| 71W214 (video adapter)   | 2320054-301     |                       | 1             | 1*            | 1*            |               |
| 71W221 DB-25 (M) (M) Straight Through  | 1214775-301**** |                       | 0             | 1*            | 1*            |               |
| 71W902 (dial phone cable)  | 2320062-303     |                       | 1             | 1*            | 0             |               |
| 71W902A (dial phone cable)   | 2320062-304     |                       | 0             | 0             | 1*            |               |
| 71A1A1A10MP Clamp Assy, Ultra 5 Mounting<br>(Screws and washers part of Bench Stock) | 2310011-301     |                       | 2<br>@@@<br>@ | 2<br>@@@<br>@ | 2<br>@@@<br>@ |               |
| 71A2AP Clamp Assy, 21" Monitor Mounting<br>(Screws and washers part of Bench Stock)  | 2310012-301     | NWSO-11-210-0029      | 2<br>@@@<br>@ | 2<br>@@@<br>@ | 2<br>@@@<br>@ |               |
| T-Nuts   | 1223119-201     |                       | 4<br>@@@<br>@ | 4<br>@@@<br>@ | 4<br>@@@<br>@ |               |
| Screws, 10/32 X .375" (Monitor mounting)   | MS51958-61      |                       | 4<br>@@@<br>@ | 4<br>@@@<br>@ | 4<br>@@@<br>@ |               |
| Screws, 10/32 X 1.25" (Processor mounting)   | MS51958-68      |                       | 4<br>@@@<br>@ | 4<br>@@@<br>@ | 4<br>@@@<br>@ |               |
| Washers, Flat  | MS15795-808     |                       | 8<br>@@@<br>@ | 8<br>@@@<br>@ | 8<br>@@@<br>@ |               |
| Washers, Lock  | MS35338-138     |                       | 8<br>@@@<br>@ | 8<br>@@@<br>@ | 8<br>@@@<br>@ |               |
| UD71 Table Label Kit   |                 |                       | 1             | 1*            | 1*            |               |
| <b>RBDDS Equipment</b>   |                 |                       |               |               |               |               |
| RBDDS Processor  | 2300015-303     |                       | 0             | 1*@           | 1*@           |               |

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| Item                                 | Part Number | National Stock Number | DOC QTY | DoD QTY | DOT QTY | Missing Items |
|--------------------------------------|-------------|-----------------------|---------|---------|---------|---------------|
| LAN Switch                           | 2210015-201 |                       | 0       | 1*@     | 1*@     |               |
| Router                               | 2300020-301 |                       | 0       | 1*@     | 1*@     |               |
| RBDDS Table                          | 2200084-201 |                       | 0       | 1*@     | 1*@     |               |
| 17" Monitor                          | 2210035-201 | 7025-01-463-4951      | 0       | 1*@     | 1*@     |               |
| Keyboard                             | 2210009-203 |                       | 0       | 1*@     | 1*@     |               |
| Surge Suppressor (with 4 AC outlets) | 2200020-201 | 5920-01-448-6322      | 0       | 1*@     | 1*@     |               |
| Mouse                                | 2210009-204 |                       | 0       | 1*@     | 1*@     |               |
| W111 (blue Ethernet)                 | 2320047-309 |                       | 0       | 1@@     | 0       |               |
| W112 (blue Ethernet)                 | 2320047-309 |                       | 0       | 0       | 1@@     |               |
| Adapter RJ-45 to DB15(F)             | 2300011-302 |                       | 0       | 0       | 1@@     |               |
| W142 (blue Ethernet)                 | 2320047-309 |                       | 0       | 0       | 1@@     |               |
| W152 (blue Ethernet)                 | 2320047-309 |                       | 0       | 0       | 1@@     |               |
| Adapter RJ-45 DB15(M)                | 2300021-301 |                       | 0       | 0       | 2@@     |               |
| W193 (AC power)                      | 2320049-303 |                       | 0       | 1*@     | 1*@     |               |
| W194 (AC power)                      | 2320049-303 |                       | 0       | 1*@     | 1*@     |               |
| W272 (blue Ethernet)                 | 2320047-308 |                       | 0       | 1*@     | 1*@     |               |
| W273 (blue Ethernet)                 | 2320047-308 |                       | 0       | 1*@     | 1*@     |               |

SIZE CAGE CODE DWG NO. REV  
A 0WY55 2640002 B

SCALE NONE

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| Item  | Part Number | National Stock Number | DOC QTY      | DoD QTY     | DOT QTY     | Missing Items |
|---|-------------|-----------------------|--------------|-------------|-------------|---------------|
| W274 (blue Ethernet)  | 2320047-308 |                       | 0            | 1* <b>@</b> | 1* <b>@</b> |               |
| 72W191 (AC power)   | 2320049-303 |                       | 0            | 1* <b>@</b> | 1* <b>@</b> |               |
| 72W192 (AC power)   | 2320049-303 |                       | 0            | 1* <b>@</b> | 1* <b>@</b> |               |
| UD72 Table Label Kit  |             |                       | 0            | 1* <b>@</b> | 1* <b>@</b> |               |
| <b>Other Equipment</b>  |             |                       |              |             |             |               |
| SERD Kit (Verify against Table 11-4)  |             |                       | 1            | 1           | 1           |               |
| ISSL Kit (Verify against Table 11-3)  |             |                       | 1            | 1           | 1           |               |
| Technician Kit (Verify against Table 11-2)  |             |                       | 1            | 1           | 1           |               |
| Other Equipment Kit (Verify against Table 11-5)   |             |                       | 1            | 1           | 1           |               |
| Tech Manual Kit (Verify against Table 11-6)   |             |                       | 1            | 1           | 1           |               |
| Envelope containing documentation from Assembly (SAD) and accountable property paperwork. |             |                       | 1            | 1           | 1           |               |
| Relocation Kit (Verify against Table 11-7)  |             |                       | 1 <b>@@@</b> | 0           | 0           |               |
| RDA RRRAT Serial Adapter  | 2200025-201 |                       | 0            | 1           | 0           |               |

**@** Optional equipment

**@@** Optional equipment installed external to the RPGPCA in the RDA/RPG shelter, only if a RBDDS will be connected off of this system.

**@@@** DOC Move Sites only

**@@@@** If a site is presently not using the original UCP table, this hardware is not necessary and will not be sent.

\* May be sent to DOC NWS Office instead of DOD or DOT location

\*\* Supplied to all DoD sites or DOT sites. May already have one installed but replace with new cable anyway (has new labels).

\*\*\* Length is site-specific.

\*\*\*\* Legacy part number to be replaced with new part number (for new labels).

|      |           |         |     |
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\*\*\*\*\* Supplied to all DOT sites. If this cable is already installed, it does not need to be replaced since no required label changes are necessary.

The following items will be sent from ROC to the site and must be on-site for INCO

**Table C-2 Items Shipped to Site from ROC**

| <b>Item</b>                 | <b>DOC QTY</b> | <b>DOD QTY</b> | <b>DOT QTY</b> | <b>Missing Items</b> |
|-----------------------------|----------------|----------------|----------------|----------------------|
| Cable Label Remarking Kit   | 1              | 1              | 1              |                      |
| Adaptation Data Floppy Disk | 1              | 1              | 1              |                      |

### **C.1 Verify RDA/RPG Gateway Firmware**

Check the gateway assembly dash number located on the top of the unit. FAA Redundant Channel 1 should have a "-307" assembly. All other units should be "-301".

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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## **Attachment D: Pre-inspection and Test of Legacy System**

### **D.1 General Information**

This attachment contains procedures for Pre-Inspection and Test of the Legacy System. The intent of these procedures is to identify any pre-existing conditions that might require resolution before the ORPG installation can proceed. These procedures primarily involve recording information about the state of the legacy system, but since this modification will result in a complete RPG hardware retrofit, the emphasis of this procedure is on check-out, inspection and verification of all communications.

### **D.2 Assumptions**

It is assumed that site technicians will be available to provide assistance and that they will be involved in this process. If at all possible, the site technician(s) should be involved in this process. The local office 88D operations focal point should also be available through the pre-inspection and test of the legacy system. If the 88D focal point is not available, the office should appoint someone knowledgeable about the radar from the operations side to fill in. During the ORPG installation, the 88D operations focal point will not normally be needed.

Site-specific documentation identified in Section 15.2 will have already been acquired and reviewed in conjunction with Attachment U by the installer. Section 15.2 and Attachment U will provide the installer with a fundamental understanding of each site's pre-existing communication configuration.

The WSR-88D Hotline will remotely test the dial lines that will be retained on the ORPG and provide a summary status of those tests to the INCO team.. It will be the WSR-88D Hotline's responsibility to escalate any problems found with RPG dial communications to the party best suited to resolve the issue.

For DOD and DOT sites, two INCO personnel are at the RDA/RPG shelter and one is at the present UCP location. This procedure will either be performed at the end of the first day or at the beginning of the second day.

### **NOTE**

**If any apparent anomalies are noted during the following checks, obtain assistance from the site technician (or (POC) in analyzing the problem and if the problem should be corrected. If the problem is internal to the legacy RPG (e.g., an Archive III problem), it can just be documented since this RPG will be replaced. On the other hand, problems with the wideband interface or any narrowband interfaces should be corrected. If it can't be corrected (e.g., a single narrowband user interface is down), it should be documented. Contact the Hotline (1-800-643-3363) if further assistance in this area is needed.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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### D.3 Procedures

#### NOTE

**In this section, Function Key F1 Can always be used to return to the Main Menu so that new command strings can be entered.**

#### NOTE

**If a printer is not available, use a separate sheet of paper as a “PRE-TEST LOG” to log all anomalies noted.**

#### D.3.1 Collect Status Information.

#### NOTE

**For the next four steps as well as step 4 of paragraph D.3.2, you will be asked to make a hardcopy of certain UCP screens. First, press the <SHIFT><F12> keys for CDT 100 or <SHIFT><F8> for the RRRAT to delete the current contents of the screen dump file. When subsequent steps indicates a need for a hardcopy, press the F11 key to dump the contents of the screen to the screen dump file. If a menu has multiple pages, this must be done for each page. After completion of D.3.2 step 5, the actual contents of the screen dump file will actually be printed on the printer.**

- STEP 1.** Scroll through the System Status log (ST,S<CR>) and note any anomalous messages, paying particular attention toward any Wideband-type error messages or "Narrow Band Line xx ..." messages (dedicated lines only). If questionable messages are seen, dump the screen contents to the dump file using the F11 key. Use “Page Forward” as necessary to scroll through the log at least 12 hours back in time. After the screens are printed, use a highlighter to denote any anomalous status or narrowband messages and have either the site POCs or the WSR-88D Hotline (800-643-3363) interpret the potential message impact.
- STEP 2.** Enter ST,RP<CR>. Make a hardcopy of the RPG Alarms screen (F11 key).
- STEP 3.** Enter ST,RD<CR>. Make a hardcopy of the RDA Performance and Maintenance Data screen ("F11 key"). Using a highlighter, denote any RDA alarms that exist. Also denote that the "DATA ENBL" field should be "ALL" (or “NONE” if RDA is in Standby).
- STEP 4.** **MLOS SITES ONLY:** Enter ST,M<CR>. Make a hardcopy of the Microwave Fault Alarm System Status screen (“F11 key”).

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## D.3.2 Inspect/Verify Communications Circuits

**NOTE**

**If these checks are performed on the first day, the FTM (Step 1 below) should indicate that comms will be disrupted for approximately one hour and then normal operations will resume until the next morning.**

**STEP 1. Make and give a copy of this page to the site operations Focal Point; it contains the Free Text Message (FTM) template for the site should use when sending out the FTM. Notify the site's operations Focal Point that you are ready to begin communications tests and that they should release the following FTM. Provide the operations Focal Point with projected disruption time for Day 1 communications test and also the Day 2 RPG outage times so that this information can be included in the FTM. It alerts all end users that the RPG retrofit is ready to begin.**

**NOTE**

**The FTM must be sent from the UCP position if the site has DoD associated users (DoD users only receive FTMs originated at the UCP, not from the AWIPS text workstation).**

**AT [ KXXX ] COMMUNICATIONS WILL BE DISRUPTED FOR SHORT PERIODS OF TIME DURING THE NEXT HOUR TO COMPLETE COMMUNICATION TESTS IN PREPARATION FOR THE OPEN RPG RETROFIT BEING COMPLETED TOMORROW.**

**TOMORROW AT [ mmddyy hh:mm LST ] [ KXXX ] SHUTTING DOWN FOR THE OPEN RPG RETROFIT. EXPECTATIONS ARE THAT THE KXXX AWIPS LINK SHOULD BE RESTORED AROUND [ mmddyy hh:mm LST ]. OTHER NARROWBAND CONNECTIVITY WILL FOLLOW SHORTLY THEREAFTER. PLEASE PHONE THE WSR-88D HOTLINE AT 1-800-643-3363 IF YOU HAVE ANY QUESTIONS.**

**STEP 2. NWS Sites ONLY: From the UCP Applications Terminal enter: AD,WXMAN1,NB,WXMAN2,VI<CR>. WXMAN1 and WXMAN2 are the default passwords for the UCP and must be Upper Case letters. Observe and annotate the COMMS OPTION column for Line 1.**

**Is the Line 1 COMMS OPTION listed as a "Y" or an "N"? \_\_\_\_\_**

**STEP 3. When complete, press the F1 key to return to the main menu of the UCP. From the UCP Applications Terminal enter a U,C<CR> to view the Comline Connection screen. With the screen open append the "U,C" command with an "S,L" command so that the entire command line entry form is ("U,C,S,L"). This will ensure the screen contents are sorted by ascending line number and will match the pre-ECP documentation obtained in Section**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**15.2.**

**STEP 4.** Survey the communication status of each line that is shown as being an operationally required line in the pre-ECP documentation. The following conditions should exist:

**W1 - CONNECT**

**W2 - N/A (not applicable)**

**W3 - For NWS sites, the "local" RIDDS connections supported via a wideband 3 (W3) connection will NOT be re-established during the INCO. End users currently obtaining base data via the RIDDS connection will have to reconnect to the BDDS at a later date.**

**For a few DOD sites, a "Remote" BDDS (RBDDS) connection will be made via a T1 connection as indicated in Attachment P. A list of DOD sites that will have an associated RBDDS and the actual location of the RBDDS is shown in Attachment V. For these few sites (approximately four), the remote RBDDS system will replace a remote RIDDS system. For example, The Jackson WSFO presently has a remote RIDDS off of the Columbus AFB RPG and when the Columbus AFB RPG is upgraded, the remote RIDDS at the Jackson WSFO will be replaced with a RBDDS at the same time. For these few DOD sites, it is important to verify the present W3 connection/functionality all the way to the remote RIDDS end since the same T1 circuit presently used by the remote RIDDS will be reused for the RBDDS. Verify that W3 indicates CONNECT. More importantly, contact the remote RIDDS user and have them verify that their remote RIDDS system is receiving base data correctly. If not, have local site technicians and technicians at the remote end check/repair the functionality of the T1 link (may require phone company involvement).**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**\*\* NWS \*\***

| LINE  | CLASS  | STATUS   |
|-------|--|--|
| 1     | RPGOP  | CONNECT  |
| 2     | NAPUP  | PENDING (or CONNECT if dial ops currently in progress) |
| ....  |  |  |
| ....  | specific number of supported NAPUP (dial) lines is site specific - see pre-ECP comms documentation |  |
| xx    | NAPUP  | PENDING (or CONNECT if dial ops currently in progress) |
| xx    | OTHER  | PENDING  |
| ....  | specific number of OTHER lines is site specific - see pre-ECP                                      |  |
| ..... | comms documentation  |  |
| xx    | OTHER  | PENDING  |
| xx    | APUP   | CONNECT (if associated to an end user)                 |
| xx    | APUP   | CONNECT (if associated to an end user)                 |
| xx    | PUES   | PENDING (in all cases this is an obsolete port)        |
| xx    | APUP   | CONNECT (if associated to an end user)                 |
| ....  | specific number of APUP lines is site specific - see pre-ECP                                       |  |
| ..... | comms documentation  |  |
| ..... | APUP   | CONNECT (if associated to an end user)                 |

If status conditions other than those listed above exist, i.e, FAILED, NOT IMP etc, either the site technician or the WSR-88D Hotline (800-643-3363) should be consulted to resolve the status issue. See D.3.3.2.2.

**\*\* DOD & DOT \*\***

| LINE | CLASS  | STATUS   |
|------|--|--|
| 1    | NAPUP  | PENDING (or CONNECT if dial ops currently in progress) |
| .... |  |  |
| .... | specific number of supported NAPUP (dial) lines is site specific - see pre-ECP comms documentation |  |
| xx   | NAPUP  | PENDING (or CONNECT if dial ops currently in progress) |
| xx   | OTHER  | PENDING  |

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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.... specific number of OTHER lines is site specific - see pre-ECP  
 ..... comms documentation  
 XX OTHER PENDING  
  
 XX APUP CONNECT (if associated to an end user)  
 XX APUP CONNECT (if associated to an end user)  
 XX PUES PENDING (in all cases this is an obsolete port)  
 XX APUP CONNECT (if associated to an end user)  
 XX RPGOP CONNECT  
 .... specific number of APUP lines is site specific - see pre-ECP  
 ..... comms documentation  
 ..... APUP CONNECT (if associated to an end user)

If status conditions other than those listed above exist, i.e, FAILED, NOT IMP etc, either the site technician or the WSR-88D Hotline (800-643-3363) should be consulted to resolve the status issue. See D.3.3.2.2.

**STEP 5.** Once all pre-existing communication status issues are resolved, with the RDA in Operate and products coming in, make a hardcopy of the Communications Status ("ST,C") screens (Only if it was necessary to correct problems noted above).

**STEP 6.** Print the previously dumped hardcopies as follows:

**A.** Switch to the system console portion of the UCP. (<Shift> Port on CDT-100 or click in window on RRRAT systems.)

**B.** Enter the following at the \* prompt:

L COPY32<CR> (System displays "TSKID = COPY32")  
 ST<CR> (Prompt changes to "COPY32>")  
 COPY SCREEN.DMP,LPØ: <CR>  
 END <CR>

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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### D.3.3 Test Communications Circuits

#### D.3.3.1 Wideband

**STEP 1.** Switch back to the Applications portion of the UCP (<Shift>Port on the CDT-100 or click in the window on RRRAT systems). Verify robust functionality of the wideband link to the RDA to include disconnects/connects and basic RDA control functionality (Operate and Standby) as follows:

**A. Wideband Disconnect/Reconnect:**

U,C <CR> (to monitor disconnect/reconnects)

U,C,D,W1<CR> (to disconnect)

U,C,C,W1<CR> (to reconnect)

**B. RDA Standby/Operate (Assumes RDA in Operate to start. If not, just place RDA into Operate and leave in Operate):**

RD<CR> (to monitor RDA Control)

RD,STAN <CR> (to place RDA into Standby)

RD,OP <CR> (to place RDA into Operate)

#### D.3.3.2 Narrowband

##### D.3.3.2.1 Dial

**STEP 1.** The WSR-88D Hotline will remotely test all dial communications being transferred to the ORPG and fax a summary (at NWS locations) of the test results to the INCO team at the office's primary fax machine. At DoD and FAA locations, the INCO team will have to phone the WSR-88D Hotline at 1-800-643-3363 and ask for a summary of the Hotline's dial test results for the site undergoing transition.

**STEP 2.** At DoD and FAA locations the INCO team will have to obtain a hardcopy of the Post-ECP Telecommunications Circuit Report (TCR) obtained in Section 15.2. Only the dial lines in the Post-ECP TCR will be tested.

**On the TCR next to each dial line denote the Hotline-provided status.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
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**Place a check mark on the TCR next to each dial line the Hotline reports as operational.**

**In most instances it is anticipated that problems encountered with dial lines will be resolved in advance of the ORPG transition. However, if a problem cannot be resolved in advance of the transition the Hotline will provide you with a Hotline Assistance Request (HAR) tracking number. On NWS systems the HAR# will be provided with the faxed status summary. On DoD and FAA systems the INCO team will have to record the HAR # directly on the TCR next to the applicable dial line having problems.**

**Resolution of dial problems and the assessment of their potential impact will be worked by the Hotline and site technicians.**

#### D.3.3.2.2 Dedicated

**STEP 1. If D.3.2 Step 4 showed no logical connection for end users that are shown being associated to the NEXRAD on the Pre-TCR, verify whether the modem associated with that port has a physical connection, i.e. DATA 14.4 D/T, U32b 14.4 D/T, etc.**

#### NOTE

**Denote on BOTH the Pre-ECP TCR and the hardcopy printout of the "ST,C" screen any instances where a physical connection can NOT be established with any associated user(s) shown on the site's TCR.**

**STEP 2. Perform this step in conjunction with D.3.4 Step 1. For circuits that have a full connection to an end user (including the RPGOP link for NWS sites), disconnect and reconnect ("U,C, D, <line number>" to disconnect, followed by a "U,C, C, <line number>" to reconnect) link to verify that remote end user logically reconnects. For DOT and DOD sites, this step should be performed after the INCO team arrives at the RDA/RPG shelter to assist with proper dedicated modem identification/documentation as indicated in the D.3.4 step 1.A.**

### D.3.4 Document Site-Specific Modem Setup Configurations

#### D.3.4.1 Dedicated Modems In Legacy RPG Modem Chassis

**STEP 1. With assistance from site personnel, annotate the Pre -ECP TCR to reflect each associated dedicated users modem rack position. This can be**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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accomplished in conjunction with D.3.3.2.2 step 2 as each connected user is disconnected and re-connected. When the line is commanded to a disconnect state, the modem TR light will go out and when the line is commanded back to a connect state, the TR light will come back on. This should be accomplished regardless of whether a physical connection was established.

- STEP 2.** When step 1 is performed (in conjunction with the disconnects/reconnects), the modem card locations in the rack should be sequential based on a certain pattern as indicated below (agency specific). If it does not follow this pattern, a high-probability exists that end-user circuits are theoretically not punched correctly on the demarc blocks, or circuits may be “patched” within the RPG cabinet to overcome possible partially defective cables. If “out-of-sequence” indications are evident, work closely with the site technicians to verify the actual location for any “out-of-sequence” circuits on the demarc block and immediately mark these circuit as indicated within Attachment U.4.3 Step 4. If necessary, contact the ROC Hotline (800-643-3363) for further assistance/guidance.

**NWS Sequence:** The first 11 dedicated lines (shown in the UCP Communications Status screen as LINE CLASS of OTHER through APUP, not counting the RPGOP on the first narrowband line) should be associated with modem rack slots 11 through 21 in order. If there is one additional active dedicated line, this modem should be in slot 10. If there are two additional active dedicated lines, these modems should be in slots 9 and 10 respectively.

**DoD and DOT sequence:** The first 10 dedicated lines should be associated with modem rack slots 12 through 21 in order (the UCP modem will always be in modem slot 11 but the UCP port is not shown in the UCP Communications Status screen). If there is one additional active dedicated line, this modem should be in slot 10. If there are two additional active dedicated lines, these modems should be in slots 9 and 10 respectively.

- STEP 3.** Record the transmit level (Tx level) for each dedicated modem that the Pre-ECP TCR identifies as being assigned to an associated user as follows:

Press the modem "Return" key twice to obtain the DCE (Data...) lcd window. Then press the "Across" key twice (three times for a 33.6, Part Number PC42703, SDC modem) until the lcd shows either "Phase Jitter = x dg" or "Rx Level = x dbm". Press the down key until the lcd shows "Tx Level = x dbm". Record the window reading on the Pre-ECP TCR next to the corresponding end user.

- STEP 4.** Press “Return” key twice. Press “Across” key until “Save Changes=3” (or

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
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SCALE NONE

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**“Save Changes=4” for AWIPS 33.6, Part Number PC42703, modem), then press the “Enter” key. Press the “Return” key twice.**

**On each dedicated modem, annotate this information on a strip of adhesive or masking tape (both Tx level and end-user name) and place this on the modem face plate.**

#### D.3.4.2 Remote UCP (DOD and DOT)

**STEP 1. Verify a good Remote UCP modem link. Turn off/on Remote UCP modem to ensure modems reconnect. We will be using this same modem link for the Distant MSCF. Repeat Step 1, above, to verify and save the UCP modem Tx level.**

#### D.3.5 Do “Save Changes” on all Dial Modems

**STEP 1. Save Changes on both the A and B sides of all dial modem cards. Press “Return” key twice. Press “Across” key until “Save Changes=3” (or “Save Changes=4” for AWIPS 33.6, Part Number PC42703, modem), then press the “Enter” key. Press the “Return” key twice. Press “Return” and “Enter” keys simultaneously to switch between the A and B sides and then repeat the procedure for the other side.**

#### D.4 Set Switches on New CSU (NWS Only)

When the Legacy RPG has a CSU installed, the switch settings on the Legacy CSU will be checked and these same switch settings must be used on the CSU in the new cabinets (D.4.1.1 and D.4.2.1 below). If the Legacy RPG has no CSU present, follow the appropriate steps (D.4.1.2 and D.4.2.2) to set the S2 and S3 Switches.

##### D.4.1 Set Front Panel Switch S2 on New CSU

D.4.1.1 If the Legacy CSU is present complete the following steps:

- Step 1. On the CSU in the legacy cabinets, check and annotate the front panel switch settings (seven dip switches set to “Ø” or “1”). “1” is considered the “OFF” position (see label on CSU).**
- Step 2. Open the front cover on the new CSU. Set the front panel switch (S2) with the same settings noted in Step 1. As indicated on the label on the CSU, the “OFF” position is indicated to be “LEFT”. This would represent the switch positions if the CSU was mounted vertically with the power LED at the top.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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D.4.1.2 If the site does not have a Legacy CSU, set the S2 Switch as follows:

|             |             |             |              |             |             |             |
|-------------|-------------|-------------|--------------|-------------|-------------|-------------|
| <b>1</b>    | <b>2</b>    | <b>3</b>    | <b>4</b>     | <b>5</b>    | <b>6</b>    | <b>7</b>    |
| <b>off</b>  | <b>off</b>  | <b>off</b>  | <b>on</b>    | <b>off</b>  | <b>off</b>  | <b>off</b>  |
| <b>left</b> | <b>left</b> | <b>left</b> | <b>right</b> | <b>left</b> | <b>left</b> | <b>left</b> |

See label on CSU. “left” and “right” represent the switch positions if the CSU was mounted vertically with the power LED at the top.

D.4.2 Set LBO Settings on New CSU S3 Switch

D.4.2.1 If the Legacy CSU is present complete the following steps:

- Step 1.** At the rear of the CSU in the legacy cabinets, note the setting of the LBO turn switch. Use a small screwdriver to turn switch either left or right to verify present setting and ensure switch is returned to its original position. Note this LBO setting.
- Step 2.** If the LBO setting was Ø (zero), this procedure is complete. If not, complete the remaining steps.
- Step 3.** On the new CSU with the front cover open, remove the front cover by flexing the upper and lower lips of the cover up and down and pull cover towards you.
- Step 4.** Disconnect two ethernet-type cables at rear of CSU.
- Step 5.** Remove the two screws at the front of the CSU.
- Step 6.** Using a static strap, slide the CSU circuit board out the front of the CSU case.
- Step 7.** Note the settings on Dip switch S3 on the circuit board. Presently, SW3-1 and SW3-2 should both be down (Ø db LBO). Set as follows for proper LBO noted on legacy CSU in Step 1:

S3-1      S3-2

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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|                |             |             |
|----------------|-------------|-------------|
| <b>-7.5 dB</b> | <b>Down</b> | <b>Up</b>   |
| <b>-15 dB</b>  | <b>Up</b>   | <b>Down</b> |

**Step 8. Reverse steps 3 through 6 to reinstall circuit board and front cover.**

D.4.2.2 If the site does not have a Legacy CSU complete the following steps:

**Step 1. Initially leave the S3 switches on the new CSU as default (do not open CSU at this time):**

|             |             |           |           |             |           |           |
|-------------|-------------|-----------|-----------|-------------|-----------|-----------|
| <b>1</b>    | <b>2</b>    | <b>3</b>  | <b>4</b>  | <b>5</b>    | <b>6</b>  | <b>7</b>  |
| <b>off</b>  | <b>off</b>  | <b>on</b> | <b>on</b> | <b>off</b>  | <b>on</b> | <b>on</b> |
| <b>down</b> | <b>down</b> | <b>up</b> | <b>up</b> | <b>down</b> | <b>up</b> | <b>up</b> |

**Step 2. Allow these settings to run for an hour (without error) to verify if the settings will work. (An unbalanced line will fail quickly.) If the default settings cause a wideband failure continue to set 3.**

**Step 3. On the new CSU with the front cover open, remove the front cover by flexing the upper and lower lips of the cover up and down and pull cover towards you.**

**Step 4. Disconnect two ethernet-type cables at rear of CSU.**

**Step 5. Remove the two screws at the front of the CSU.**

**Step 6. Using a static strap, slide the CSU circuit board out the front of the CSU case.**

**Step 7. Check the (S2) distance setting on the Legacy RPG VME wideband board (UD22A4A1), see EHB 6-520 Fig. 6-19.**

**If these settings indicate the distances are 533 feet and BELOW - set the S3 switches on the new CSU (Legacy CSU -15 dB LBO settings ) as follows:**

|           |             |           |           |             |           |           |
|-----------|-------------|-----------|-----------|-------------|-----------|-----------|
| <b>1</b>  | <b>2</b>    | <b>3</b>  | <b>4</b>  | <b>5</b>    | <b>6</b>  | <b>7</b>  |
| <b>on</b> | <b>off</b>  | <b>on</b> | <b>on</b> | <b>off</b>  | <b>on</b> | <b>on</b> |
| <b>up</b> | <b>down</b> | <b>up</b> | <b>up</b> | <b>down</b> | <b>up</b> | <b>up</b> |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**If these settings indicate the distances are 533 ft and ABOVE - set the S3 switches on the new CSU (Legacy CSU -7.5 dB LBO settings) as follows:**

|             |           |           |           |             |           |           |
|-------------|-----------|-----------|-----------|-------------|-----------|-----------|
| <b>1</b>    | <b>2</b>  | <b>3</b>  | <b>4</b>  | <b>5</b>    | <b>6</b>  | <b>7</b>  |
| <b>off</b>  | <b>on</b> | <b>on</b> | <b>on</b> | <b>off</b>  | <b>on</b> | <b>on</b> |
| <b>down</b> | <b>up</b> | <b>up</b> | <b>up</b> | <b>down</b> | <b>up</b> | <b>up</b> |

**Step 8. Reverse steps 3 through 6 to reinstall circuit board and front cover.**

**Step 9. Allow these settings to run for an hour to verify they will work without a wideband failure. If you have problems increase the setting (From -15 dB to -7.5 dB, or from -7.5 dB to Ø dB) till the problem is resolved. (An unbalanced line will fail quickly.)**

**Step 10. Once the proper settings are found, log in the settings. (An unbalanced line will fail quickly.)**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## Attachment E: Install Boxed Hardware

### E.1 DOC system

The RPG Processor, JAZ Drive, Monitor, BDDS Processor, Keyboard, and Mouse are packed in separate shipping containers to minimize the possibility of damage during shipment. All subsequent item references are to the 2300006 BOM.(retrieve for reference). Also verify these items on SAD as they are installed.

Remove these items from their shipping containers and install in the RPG cabinet:

### CAUTION

**Do not install boxed components yet if the RPGPCA cabinets are not in the same building/shelter as the legacy RPG. If necessary, transport equipment to this location prior to installation of the boxed components. It is preferable that the boxed components not be installed if the cabinets must be rolled over rough areas or must be tilted.**

E.1.1 Install RPG Processor, UD70/170A7, Item 99, P/N 2310016-301

Drawing 2300006, Sheets 5 and 13.

One technician is needed for this procedure.

Equipment and Tools Required:

Diagonal cutters, tie-wraps

Initial Conditions/Preliminary Setup:

Open the RPGPCA cabinet doors. Refer to Drawing 2300006, Sheets 5 and 13 for the location of the RPG Processor UD70A7A1.

**STEP 1. Cut off “shipment” tie-wraps in cabinet (black tie-wraps or with excess length not previously removed). Remove the UPS front cover and set aside. Cut documentation bag out of cabinet and set aside.**

### CAUTION

**DURING INSTALLATION PROCEDURES, DO NOT LEAN ON EXTENDED SHELVES OR PLACE EXCESS WEIGHT ON SHELVES.**

**STEP 2. Slide out the RPG processor shelf, UD70/170MP18 (Item 18, P/N 2200070-201) until fully extended in its locked position.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 3.** Set the processor (item 99, P/N 2300016-301) on top of the straps (Item 507, P/N 2200085-201) as shown on the drawing Sheet 13, Section GG-GG (~1" from front edge).
- STEP 4.** Connect the straps by moving them up and over the top of the A7 processor.
- STEP 5.**
- a. Connect the serial cable UD70/170W251 (blue ethernet-type) to PCI Card 2, Port 1 at the back of the RPG Processor. (Port 1 is second from top.)
  - b. Connect the serial cable UD70/170W253 (blue ethernet-type) to PCI Card 2, Port 3 at the back of the RPG Processor. (Port 3 is the very bottom port.)
- STEP 6.** DOT:
- a. Connect UD70/170W302 to PCI Card 4 at the back of the RPG Processor.
  - b. Connect the serial cable UD70/170W252 (blue ethernet-type) to PCI Card 2, Port 2 at the back of the RPG Processor.
- STEP 7.** DOD and DOT:  
Connect the serial cable UD70/170W250 (blue ethernet-type) to PCI Card 2, Port 0 at the back of the RPG Processor.
- STEP 8.** Connect UD70/170W301 to PCI Card 1, Port A at the back of the RPG Processor. (Port A is the bottom connector.)
- STEP 9.** Connect the LAN cable UD70/170W201 to the Network Port at the back of the RPG Processor.
- STEP 10.** Connect the UPS serial cable UD70/170W255 to Serial Port B at the back of the RPG Processor.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 11. MLOS sites only:**

**Connect the serial cable UD70/170W257 to Serial Port A at the back of the RPG Processor.**

**STEP 12. Connect the Keyboard and Monitor cables to their respective ports at the back of the RPG Processor.**

**DOC: Cable UD70/170W303P3 (Mouse) and UD70/170W303A (Video) from Raritan.**

**DOD: Install Keyboard and Mouse IAW paragraph E.1.6.**

**STEP 13. Ensure Power Switch at rear of processor is in the OFF position.****STEP 14. Locate and connect the AC power cord to the back of the RPG Processor.**

**a. DOC and DOD: UD70/170W50**

**b. DOT: UD70 /170W61**

**STEP 15. Leave the processor shelf out for the insertion of the Jaz Drive.**

E.1.2 Install JAZ Drive, UD70/170A8, Item 27, P/N 2210008-207

Drawing 23000006, Sheet 13.

One technician is needed for this procedure.

Equipment and Tools Required: Tie-wraps

Initial Conditions/Preliminary Setup: Open the RPGPCA cabinet doors. Refer to Drawing 23000006, Sheet 13 for the location of the JAZ Drive UD70/170A8.

**STEP 1. Ensure RPG Processor Shelf, UD70/170MP18 (Item 18, P/N 2200070-201) is fully extended in its locked position.**

**STEP 2. At the back of the A8 JAZ Drive, set the SCSI ID Switch to 3 using the two buttons located at either side of the SCSI ID Switch.**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 3.** If only an A8 JAZ Drive will be installed, set the A8 JAZ Drive TERM Switch to the far-left. If an A9 JAZ Drive will also be installed, set the A8 JAZ Drive TERM Switch to the far-right.
- STEP 4.** Place A8 JAZ Drive unit (item 27, P/N 2210008-207) approximately as shown on drawing, Sheet 13, Section BB-BB.
- STEP 5.** Connect UD70/170W301 to the bottom SCSI Port at the back of the A8 JAZ Drive. Ensure power switch is on (1) at rear of unit.
- STEP 6.** Locate and connect the AC power cord UD70/170W78 to the back of the A8 JAZ Drive. (W78 label is actually on AC feed to the drive DC converter.) Loop power cable between drive DC converter and tie-wrap it to the shelf (if not already done).
- STEP 7.** Release the locking mechanism by pushing the spring-loaded buttons toward the front of the sliding rails, and carefully slide the shelf back into the cabinet.

E.1.3 Install JAZ Drive, UD70/170A9, Item 27, P/N 2210008-207, if required

Drawing 2300006, Sheet 13, Section HH-HH.

One technician is needed for this procedure.

Initial Conditions/Preliminary Setup: Open the RPGPCA cabinet doors. Refer to Drawing 2300006, Sheet 13 for the location of the JAZ Drive UD70/170A9.

- STEP 1.** Ensure RPG Processor Shelf (item 18, P/N 2200070-201) is fully extended in its locked position
- STEP 2.** At the back of the JAZ Drive, set the SCSI ID Switch to 4 using the two buttons located at either side of the SCSI ID Switch. Set the TERM Switch to the far-left.
- STEP 3.** Place A9 JAZ Drive unit (item 27, P/N 2210008-207) right on top of the A8 JAZ Drive unit (item 27, P/N 2210008-207) as shown on drawing, Sheet 13, Section BB-BB.
- STEP 4.** Connect UD70/170W312 from the top SCSI Port of the A8 JAZ Drive to the

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**bottom SCSI port of the A9 JAZ drive.**

**STEP 5. Locate and connect the AC power cord UD70A79 to the back of the A9 JAZ Drive.**

**STEP 6. Release the locking mechanism by pushing the spring-loaded buttons toward the front of the sliding rails, and carefully slide the shelf back into the cabinet.**

E.1.4 Install RPG Monitor, UD70/170A4, Item 15, P/N 2210035-201

Drawing 2300006, Sheet 7.

Two technicians are required for this procedure.

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup: Refer to Drawing 2300006, Sheet 7 for location of RPG Monitor UD70/170A4

**STEP 1. Slide out the monitor shelf, UD70/170MP18 (Item 18, P/N 2200070-201) until fully extended in its locked position.**

**STEP 2. Attach the monitor pedestal to the monitor.**

**STEP 3. With the assistance of the second technician, place the monitor (item 15, P/N 2210035-201) on the shelf with the base centered from side to side and with the front of the monitor pedestal just behind the front strap.**

#### **NOTE**

**The pedestal of the monitor is circular and slopes up toward the center.**

**STEP 4. Slide the monitor forward so that its pedestal slides underneath the front strap. Secure the front strap (item 508, P/N 2200085-202) so that the area of the strap between the metal grommets crosses OVER the sloped part of the monitor pedestal. The rest of the front strap should cross the top of the front portion of the monitor housing.**

**STEP 5. Secure the rear strap (item 508, P/N 2200085-202) so it extends up and**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**around the rear portion of the monitor housing.**

- STEP 6.      Locate and connect the Video Monitor cable. Remove plastic tie-wrap if necessary.**
- 1. DOC: Connect the monitor's DB15M to the CP13 adapter attached to cable 70/170W311. (CP13 adapter may be on monitor cable). 70/170W311 cable is near center rear of cabinet. Make two or three small loops in cable and tie-wrap to shelf.**
- 2. DOT and DOD: Connect to the Video Port at the back of the RPG Processor UD70/170A7. Make two or three small loops in cable and tie-wrap to shelf.**
- STEP 7.      Locate the AC power cord UD70/170W58 for the Monitor. Connect the AC power cord to the back of the Monitor.**
- STEP 8.      Release the locking mechanism by pushing the spring-loaded buttons toward the front of the sliding rails, and carefully slide the shelf back into the cabinet.**

#### E.1.5 Install BDDS Processor, UD70A1, Item 98 P/N 2210015-301

This item is only installed in DOC RPGs.

Drawing 2300006, Sheet 12.

One technician is required for this procedure.

- Equipment and Tools Required:**                      Tie-wraps, Diagonal cutters
- Initial Conditions/Preliminary Setup:**                      Open the RPGPCA cabinet doors and locate the installation location for the BDDS Processor UD70A1A1. Refer to Drawing 2300006, Sheet 12.
- STEP 1.      Slide the BDDS Processor shelf, UD70/170MP18, (Item 18, P/N 2200070-201) out into its locked position.**
- STEP 2.      Place the BDDS Processor (item 98, P/N 2300015-301) on the shelf as indicated in the drawing. The BDDS Processor should be centered from side to side and with the center part of the processor about two and one-half**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**inches from the front of the sliding shelf.**

- STEP 3. Secure the BDDS processor as depicted in the drawing using one strap (item 507, P/N 2200085-201).**
- STEP 4. Connect LAN Cable UD70/170W212, to PCI Card 1 at the back of the BDDS Processor.**
- STEP 5. Connect LAN Cable UD70/170W204 to the Network port at the back of BDDS Processor.**
- STEP 6. Connect UD70/170W304P3 (mouse) and UD70/170W304A (video) from Raritan to the back of the BDDS Processor.**
- STEP 7. Ensure power switch at rear of processor is in the OFF position.**
- STEP 8. Locate the AC power cord (UD70/170W55) for the BDDS Processor and connect the AC power cord to the back of the BDDS Processor.**
- STEP 9. Repeat E.1.4, STEP 8.**
- STEP 10. If necessary, loop cables and tie-wrap for neatness.**

E.1.6 Install Keyboard, UD70/170A5, Item 16, P/N 2210017-203 and Mouse, UD70/170A6, Item 17, P/N 2210017-204

Drawing 2300006, Sheets 5 and 15.

One technician is required for this procedure.

Equipment and Tools Required:

Diagonal cutters, tie-wraps

Initial Conditions/Preliminary Setup:

Open the RPGPCA cabinet doors and locate the RPG Keyboard (SUN) UD70/170A5, and to install the RPG Mouse (SUN) UD70/170A6 (Refer to Drawing 2300006, Sheets 5 and 15 for Keyboard and Mouse location.)

- STEP 1. Slide and rotate the Keyboard/Mouse Shelf clockwise, UD70/170MP50, Item 505, P/N 2200089-201 out into its operating position. DOES NOT lock.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 2.** Place the keyboard (item 16, P/N 2210017-203) on the Keyboard/Mouse Shelf
- STEP 3.** Coil the cord to prevent interference until ready to attach.
- STEP 4.** Locate, follow, and attach the Keyboard cable at its interconnect point. Router cable initially through slotted opening at right rear of bay.
1. DOC: connect to the UD70/170W311 cable (at center rear of cabinet).  
2. DOT and DOD: connect to the Keyboard Port at the back of the RPG.
- STEP 5.** Place the mouse (item 17, P/N 2210017-204 on the Keyboard/Mouse Shelf, UD70/170MP50, Item 505, P/N 2200089-201
- STEP 6.** Place the Keyboard face down on the Keyboard/Mouse shelf.
- STEP 7.** Plug the mouse cord into the bottom of the keyboard (item 16, P/N 2210017-203) and thread the cable around a channel on the bottom of the keyboard.
- STEP 8.** Connect mouse to keyboard routing cable through keyboard channels placing cord underneath keyboard. Turn keyboard back over and place in position. Use of keyboard feet and routing of mouse cord under keyboard is variable (user coordination).
- STEP 9.** Rotate keyboard/mouse shelf but do not push back into cabinet. Pull out to fully extended position. With approximately ½" of slack in keyboard cable, tie-wrap the cable loosely to the second hole from the rear on the inside rear portion of the shelf slide assembly (left side from rear of cabinet). Pull cable forward slightly and insert into the routing tab (Plastic D-shaped clamp). Tighten tie-wrap at rear of shelf slide assembly (snug - do not overtighten). Loop any excess at the center-rear cable harness and tie-wrap to the present harness. Slide shelf back into cabinet.

E.1.7 Connect the UPS battery cartridge that was disconnected prior to shipment by NLSC to the UPS (item 503)

Drawing 2300006, Sheets 5 and 17.

Drawing 2300017, Sheet 1.

One technician is required for this procedure.

Equipment and Tools Required: NONE

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Initial Conditions/Preliminary Setup: Open the RPGPCA cabinet doors and locate the UPS (APC 1400) UD70/170A11 (Refer to Drawing 2300006, Sheets 5 and 17 for the UPS Location.)

**STEP 1. Remove warning label over battery connector (if label is in place). Align and plug the battery cartridge connector into the UPS connector. Press firmly to ensure connection is complete. A “snap” will be heard when the connector is properly seated.**

**STEP 2. If necessary, route connector pull rope out of the way (around left side of the handle). Replace the front cover to the UPS.**

E.1.8 Perform a visual inspection:

Insure that:

1. All RJ45-type cables plugged in
2. AC Plugs fully in UD70A22 PDP and J23 power strip
3. All patch panel switches closed (normal) position.
4. All connectors on back of the patch and adapter panels firmly seated

## **E.2 DOD system**

The RPG Processor, JAZ Drive, Monitor, Keyboard, and Mouse are packed in their original manufacturer's shipping containers to minimize the possibility of damage during shipment.

Remove these items from their shipping containers and Install:

E.2.1 Install RPG Processor and Straps, UD70/170A7, Item 99, P/N 2310016-301

See Section E.1.1

E.2.2 Install JAZ Drive, UD70/170A8, Item 27, P/N 2210008-207

See Section E.1.2

E.2.3 Install JAZ Drive, UD70/170A9, Item 27, P/N 2210008-207, if required

See Section E.1.3

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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E.2.4 Install Monitor and Straps UD70/170A4, Item 15, P/N 2210035-201

See Section E.1.4

E.2.5 Install Keyboard, UD70/170A5, Item 16, P/N 2210017-203 and Mouse, UD70/170A6, Item 17, P/N 2210017-204

See Section E.1.6

E.2.6 Connect the UPS battery cartridge that was disconnected prior to shipment by NLSC.

See Section E.1.7

E.2.7 Perform visual inspection.

See Section E.1.8.

### **E.3 DOT system**

The RPG Processor, JAZ Drive, Monitor, Keyboard, and Mouse are packed in their original manufacturer's shipping containers to minimize the possibility of damage during shipment.

Remove these items from their shipping containers and Install:

E.3.1 Install RPG Processor and Straps, UD70/170A7, Item 99, P/N 2310016-301

See Section E.1.1

E.3.2 Install JAZ Drive, UD70/170A8, Item 27, P/N 2210008-207

See Section E.1.2

E.3.3 Install JAZ Drive, UD70/170A9, Item 27, P/N 2210008-207, if required

See Section E.1.3

E.3.4 Install Monitor and Straps UD70/170A4, Item 15, P/N 2210035-201

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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See Section E.1.4

E.3.5 Install Keyboard, UD70/170A5, Item 16, P/N 2210017-203 and Mouse, UD70/170A6, Item 17, P/N 2210017-204

See Section E.1.6

E.3.6 Connect the UPS battery cartridge that was disconnected prior to shipment by NLSC.

See Section E.1.7

E.3.7 Perform visual inspection.

See Section E.1.8.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## Attachment F: Install RPG Equipment

### F.1 Standard DOC Systems

#### F.1.1 Move RPG into Position

Prepare the work area around the legacy RPG to allow working space for moving the RPG into position. Move the RPG unit as close as possible to the Legacy RPG to facilitate transition of equipment from the Legacy RPG to the RPG.

#### F.1.2 Power Down the Legacy RPG

Ask site personnel to call the NCF at this time to remind them that the radar will be down all day for transition. For DOD and DOC sites that have a connection to an NWS AWIPS (33.6), this call should be made by the NWS office.

Perform the shutdown procedure for the Legacy RPG in Chapter 4, Table 4-3.7 of EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems). After Archive III is deactivated, ensure that site personnel retrieve the optical disk from the drive for submittal to NCDC. (Site personnel should perform the shutdown procedure, if possible, since they are familiar with these procedures.)

### WARNING

**FAILURE TO PERFORM THE APPLICABLE SHUTDOWN PROCEDURE COULD CAUSE  
SERIOUS INJURY OR DEATH.**

#### F.1.3 Remove equipment from legacy RPG cabinets for reuse in RPG Cabinets and disconnect external cables as follows:

##### F.1.3.1 Modem Cards

The new circuit report must be reviewed to retrieve the appropriate modem for the circuit and install in appropriate slot. See Section 15.2 for procedures on retrieving the new circuit report, as well as the old circuit report through the internet. The modem rack in the RPG will not be populated with all necessary modem cards. The RPG will need to be populated with modem cards from the Legacy RPG.

Drawing 1219738-209, Sheet 5

One technician is needed for this procedure.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Equipment and Tools Required: ESD Component Handling Kit

Initial Conditions/Preliminary Setup:

- a. Open the cabinet and locate the Dedicated/Dial Modem Rack Assembly in the Legacy RPG (UD22A1) and in the RPG (UD70A14).
- b. Insert key in modem rack door, turn key to unlock, and fully swing out modem rack door.

- STEP 1.** Put ESD wrist strap on bare wrist and connect clip lead to chassis frame or proper ground.
- STEP 2.** Remove modem rack locking key from atop the modem rack to unlock and open the front cover door of the modem rack.  
Look at the pre-NCR and note cards that are presently in use. Move those cards in the next 3 steps.
- STEP 3.** At the legacy modem rack, remove the first dial modem card (3262) from slot 1. Remove card by rotating the card ejectors simultaneously at the top and bottom of each modem that hold the card in place and carefully sliding the card out from the enclosure (reference EHB 6-525, Figure 6-7). Check/set the DIP switches on the card to: 1,2,7 and 8 On, all others are Off (reference EHB 6-525, Figure 6-8).
- STEP 4.** Remove slot cover plates on the new modem rack as needed to install modems.
- STEP 5.** Install the dial modem card in the first slot of the new modem rack by sliding the card in while ejectors are in positioned as shown in Figure 6-7-A. When the modem card makes contact with the ejectors, swing ejectors inward toward the card and press to ensure proper seating of the card. Repeat steps 3 through 5 until four dial cards have been transferred from the legacy modem rack to the new modem rack. Remember to transfer cards previously in use whenever possible.

#### NOTE

In a few cases (e.g., some support systems), the legacy systems may not contain four dial modem cards. In this case, transfer only the available dial modem cards.

- STEP 6.** Locate the new circuit report (Post - ECP F0103) and reference the information recorded during completion of D.3.2, step 5. In the remaining steps, it is important to retrieve and install the correct dedicated modem (3263) for a given end-user as recorded in D.3.2,

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**step 5.** This will ensure the same modem previously used for a given end-user is reused for that same end-user, thus ensuring correct modem settings.

**STEP 7.** For NWS sites: Modem rack slot 5 is not used. Install a cover plate on that slot.

For DOD and FAA sites: In most cases, slot 5 of the new modem rack must contain the 33.6 modem that will go to a NWS office to support an AWIPS feed. Verify this on the Post - ECP F0103 circuit report (shown as the 2-RJ2DX DED 01 circuit). Locate that corresponding modem in the legacy rack and remove it. This modem will have a part number of PC42703 on the face plate (normal 14.4 modems will have a part number of either PC21102 or PC21103). Check/set the modem card dip switches to: 1 and 2 On, all others are Off (reference EHB 6-525, Figure 6-8). Insert this 33.6 modem into slot 5 on the new modem rack.

**STEP 8.** Reference the Post - ECP F0103 circuit report and determine the correct 14.4 modem to install into slot 6 for the end-user specified (in this case, the 2-RJ2DX DED 02 listing). Retrieve the applicable end-user's modem from the legacy modem rack (as documented in D.3.2, step 5) and check/set the modem card dip switches to: 1 and 2 On, all others are Off. Insert this 14.4 modem into slot 6 on the new modem rack.

**STEP 9.** Referencing the Post - ECP F0103 circuit report, repeat step 8 for the subsequent modem slots (7 - ??), for each actual end-user listed on the circuit report. In some cases, an actual end-user may be skipped on the Post - ECP F0103 circuit report (shown as "none-designated" under the PUP SITE column). Skip that corresponding slot in the new modem rack for now.

**STEP 10.** DOD and DOT sites only: Verify that a 33.6 modem (PC 42703) is installed in slot 21 of the modem rack. This should come with the new system and is used for the Distant MSCF modem link (shown on the circuit report as the 4-RJ2DX DED 05 circuit).

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 11.** If there are still dedicated modem cards (3263) remaining in the legacy modem rack, these modems should be removed and installed into the remaining open slots in the new modem rack (open slots in the range of slots 6 through 20). These are shown on the circuit report with an "X" in the MODEM column but with "none designated" in the PUP SITE column.
- STEP 12.** When all necessary modems are installed, reinstall cover plates as necessary to cover empty slots. If not enough cover plates are available, use cover plates off of the legacy modem rack. If extra plates are available, reinstall these on the legacy modem rack.
- STEP 13.** Compare the type of modem installed in each slot against the RPG Cabinet Assembly drawing 2300006, Table C (38 = Dial, 37 = 14.4 Dedicated, 514 = 33.6 Dedicated). If there are differences, annotate the "as installed" information on either the drawing or Revised for ECP F103 circuit report and return to ROC with SAD data. For all transferred modems, annotate the serial numbers on the SAD.
- STEP 14.** Close and lock the modem rack assembly door. Remove the key from the lock, and affix the key atop the modem rack with adhesive tape.
- STEP 15.** This completes the modem card installation procedure.

#### F.1.3.2 Disconnect External Cabling

External cables from the Legacy RPG must be located, identified and disconnected. Some cables will be re-labeled and reused. Other cables will be removed and replaced by new cables (i.e. UCP cables will be removed and replaced by MSCF cables).

##### F.1.3.2.1 AC Input Power Cable W9 (DOD), W9/109 (FAA), or W200 (DOC) Disconnect Procedure.

One technician is required for this procedure.

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup:

Open the left rear cabinet door of the Legacy RPG cabinet and locate the Power Filter UD70FL1.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 1. Ensure that the Legacy RPG has been disconnected from the AC input power source:**

**1. For DOD and DOC Move Sites, at the Secondary Power Distribution Panel: Turn Off the circuit breakers CB25, 27, and 29 (ganged).**

**2. For DOT, at the Secondary Power Distribution Panel:**  
**Channel 1: Turn Off the circuit breakers CB25, 27, and 29 (ganged).**  
**Channel 2: Turn Off the circuit breakers CB26, 28, and 30 (ganged).**

**3. For DOC: Turn Off the appropriate circuit breakers at the Office/Building Power Panel.**

**STEP 2. Disconnect P1 of cable W9/W200 from J1 of Power Filter power cord junction box at the bottom of FL1 by unscrewing by hand.**

F.1.3.2.2 Disconnect the external ground wire from the ground stud on the Cable Entry Panel

F.1.3.2.3 Procedures to Disconnect Communication Cables.

F.1.3.2.3.1 DOC Private T1 Link

Locate and disconnect the external cables identified in Table F.1.3.2.3-1 (Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.1 WSR-88D System Communication, Interface Diagram, Sheet 2 of 6, and FO7-1.4)

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table F.1.3.2.3-1 Disconnect DOC Private T1 Link External Cables**

| From                  | Cable ID     | To                | Connection | Disposition |
|-----------------------|--------------|-------------------|------------|-------------|
| Demarc Frame          | W201         | Cable Entry Panel | J1         | Reuse       |
| Demarc Frame          | W202         | Cable Entry Panel | J2         | Reuse       |
| Demarc Frame          | W230*        | Cable Entry Panel | J3         | Reuse       |
| PUP                   | W328         | Cable Entry Panel | J5         | Reuse       |
| UCP UD34              | W209*        | Cable Entry Panel | J16        | Remove      |
| A26 Surge Suppressors | W216         | Cable Entry Panel | J19        | Reuse       |
| 42SES2-AUX            | W215         | Cable Entry Panel | J17        | Remove      |
| Demarc Frame          | W229*        | Cable Entry Panel | J4         | Remove      |
| RIDDS                 | Unspecified* | Cable Entry Panel | J21        | Remove      |

\* Site Dependent

**F.1.3.2.3.2 DOC TELCO T1 Link**

Locate and disconnect the external cables identified in Table F.1.3.2.3-2 (Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.1 WSR-88D System Communication, Interface Diagram, Sheet 2 of 6, and FO7-1.4)

**Table F.1.3.2.3-2 Disconnect DOC TELCO T1 Link External Cables**

| From         | Cable ID | To                | Connection | Disposition |
|--------------|----------|-------------------|------------|-------------|
| Demarc Frame | W201     | Cable Entry Panel | J1         | Reuse       |
| Demarc Frame | W202     | Cable Entry Panel | J2         | Reuse       |
| Demarc Frame | W230*    | Cable Entry Panel | J3         | Reuse       |

SIZE CAGE CODE DWG NO. REV  
A 0WY55 2640002 B

SCALE NONE

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|                       |              |                   |     |        |
|-----------------------|--------------|-------------------|-----|--------|
| PUP                   | W328         | Cable Entry Panel | J5  | Reuse  |
| UCP UD34              | W209*        | Cable Entry Panel | J16 | Remove |
| A28 Surge Suppressors | W218         | Cable Entry Panel | J19 | Reuse  |
| 42SES2-AUX            | W215         | Cable Entry Panel | J17 | Remove |
| Demarc Frame          | W229*        | Cable Entry Panel | J4  | Remove |
| RIDDS                 | Unspecified* | Cable Entry Panel | J21 | Remove |

\* Site Dependent

### F.1.3.3 Remove Legacy RPG

Two technicians are required for this procedure.

### WARNING

**POSSIBILITY OF INJURY OR DEATH IF SAFETY PRECAUTIONS ARE NOT TAKEN.**

### NOTE

**Confirm the power has been shut off at the breaker before disconnecting the power cable.**

- STEP 1.** Remove all external cabling from underneath the cabinet. The removal of the power cable may require the cabinet to be tilted either to the front or back. If this is not feasible, unplug the other end of cable and temporarily remove the plug to allow cable to be routed out of the cabinet. Document wire colors to ensure plug is later reassembled correctly.
- STEP 2.** At the bottom of the cabinets, use a 1-3/8" open end wrench or adjustable wrench and loosen all stabilizer/alignment jack screws to the point that they are no longer in contact with the floor. If necessary, disconnect/remove any local support modifications (e.g., "Earthquake feet").
- STEP 3.** Using fingers, screw all jack screws completely up into the cabinets.
- STEP 4.** Roll the legacy RPG away from its present location. Coordinate with

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

SHEET 134 OF 389

**site personnel on an adequate storage location pending strip-down.**

#### F.1.4 Connect and Re-label External Cabling

##### F.1.4.1 Connect External Cabling

###### F.1.4.1.1 AC Input Power Cable W200 Installation Procedure.

Two technicians are required for this procedure.

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup: NONE

#### **WARNING**

**POSSIBILITY OF INJURY OR DEATH IF SAFETY PRECAUTIONS ARE NOT TAKEN.**

#### **NOTE**

**Confirm the power has been shut off at the breaker before disconnecting the power cable.**

**STEP 1. Move the RPG into position.**

**STEP 2. At the bottom of the cabinets, using fingers, screw all jack screws completely down to the floor.**

**STEP 3. Using a 1 3/8" open wrench or adjustable wrench tighten all jack screws to the point the wheels no longer touch the floor.**

#### **NOTE**

**Not all cabinets will have eight leveling jack screws.**

**STEP 4. Open the left rear cabinet door of the RPGPCA cabinet and locate the Power Filter UD70FL1. (Refer to Figure 1-3 of EHB 6-525 for the Power Filter location.)**

**STEP 5. Route the power cord underneath the cabinet. It may be necessary to tilt the cabinet to either the front or the back to install.**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 6.

Connect the external ground wire (P/N 1219716-32, 1219716-304) to the ground stud on the RPG Cable Entry Panel, bent in such a manner to leave access to all I/O panel jacks.
- STEP 7.

Connect P1 of cable W9/W200 to J1 of Power Filter power cord junction box at the bottom of FL1 and screw on by hand.

F.1.4.1.2

Procedures to Connect Communication Cables



**NOTE**

**For the cables that must be re-labeled (W200, W201, W202, W230, W328, W216 and/or W218), it is easier to remove the old label and attach the new label at this end (See F.1.4.2) before the cables are connected. Re-label cables one at a time so that they do not get mixed up.**

**F.1.4.1.2.1 DOC Private T1 Link Systems**

Locate and connect the external cables identified in Table F.1.4.1.2-1.

(Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1 WSR-88D System Communication, Interface Diagram, Sheet 2 of 5, and FO7-2, Sheet 1)

**Table F.1.4.1.2-1 Connect DOC Private T1 Link External Cables**

| <b>From</b>                    | <b>Cable ID</b> | <b>To</b>         | <b>Connection</b> |
|--------------------------------|-----------------|-------------------|-------------------|
| Demarc Frame                   | W201            | Cable Entry Panel | J1                |
| Demarc Frame                   | W202            | Cable Entry Panel | J2                |
| Demarc Frame                   | W230*           | Cable Entry Panel | J3                |
| PUP                            | W328            | Cable Entry Panel | J5                |
| UD71 MSCF                      | W331**          | Cable Entry Panel | CP1               |
| A26 Surge Suppressors          | W216            | Cable Entry Panel | J19               |
| UD79A1 Printer                 | W332**          | Cable Entry Panel | CP10              |
| AWIPS Plain Tree Switch Port 3 | W340***         | Cable Entry Panel | CP6               |

\* Site Dependent

\*\* Will be routed to MSCF/Printer location during completion of Attachment N.

\*\*\* Discuss routing of this cable to the AWIPS with site technicians. Route and complete this interconnection at this time. If there is only one RPG in a forecast office, the W340 cable is connected to the AWIPS Primary Plain Tree switch. For a second RPG in the same office, the W340 cable is connected to the Secondary AWIPS Plain Tree switch.

**F.1.4.1.2.2 DOC TELCO T1 Link Systems**

Locate and connect the external cables identified in Table F.1.4.1.2-2

(Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1 WSR-88D System Communication, Interface Diagram, Sheet 2 of 5, and FO7-2, Sheet 1)

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table F.1.4.1.2-2 Connect DOC TELCO T1 Link External Cables**

| <b>From</b>                    | <b>Cable ID</b> | <b>To</b>         | <b>Connection</b> |
|--------------------------------|-----------------|-------------------|-------------------|
| Demarc Frame                   | W201            | Cable Entry Panel | J1                |
| Demarc Frame                   | W202            | Cable Entry Panel | J2                |
| Demarc Frame                   | W230*           | Cable Entry Panel | J3                |
| PUP                            | W328            | Cable Entry Panel | J5                |
| UD71 MSCF                      | W331**          | Cable Entry Panel | CP1               |
| A28 Surge Suppressors          | W218            | Cable Entry Panel | J19               |
| UD79A1 Printer                 | W332**          | Cable Entry Panel | CP10              |
| AWIPS Plain Tree Switch Port 3 | W340***         | Cable Entry Panel | CP6               |

\* Site Dependent

\*\* Will be routed to MSCF/Printer location during completion of Attachment N.

\*\*\* Discuss routing of this cable to the AWIPS with site technicians. Route and complete this interconnection at this time. If there is only one RPG in a forecast office, the W340 cable is connected to the AWIPS Primary Plain Tree switch. For a second RPG in the same office, the W340 cable is connected to the Secondary AWIPS Plain Tree switch.

#### F.1.4.2 Procedures to Re-label Cabinet External Cables

All required cable markers to re-label Legacy cable assemblies externally connected to the RPG will be supplied by the ROC and shipped to the site. Each “kit” will be unique for each site.

An initial visual comparison of the labels in the ROC-supplied “Legacy Cable Re-labeling Kit” versus the cables reconnected is recommended. If cables were reconnected and new labels were not received, contact the ROC WSR-88D Hotline at 1-800-643-3363 and request support. In most cases, a new label set can be shipped to that site for next day delivery.

The re-labeling process must be accomplished one cable at a time. This re-labeling of cable assemblies comprises both ends of the cable as well as its part number cable marker. Selecting a cable, observe the “from/to” label marking [e.g., W201 P1(22J1) ] at the loose/disconnected end of the cable. Using Table R.1-1, identify the replacement labels with the same “W” cable number, ROC assigned part number and basic “from/to” identifiers. Note that for the RPG end, the old labels indicate a UD22/122 marking; whereas, the new labels will show a UD70/170 marking.

### CAUTION

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Be extremely cautious and do not excessively bend or pull on cables when removing or applying cable labels.**

#### NOTE

**Table R.1-1 is referenced mainly to assist with locating the end of the label at the far end. At the cabinet end, the labels are almost identical, just that old labels referencing "UD22" or "UD22/122" are replaced with labels referencing "UD70" or "UD70/170".**

Locate/remove the applicable labels (3) from the "Legacy Cable Re-labeling Kit". Using a "utility knife" (razor), carefully cut the existing label(s) off of the cable. Remove the legacy cable marker and replace with the new label. For the original part number cable marker, it will probably be located at the mid point of the cable length; however, when the new part number cable marker is used, it will be placed approximately 1" from the new P1 label. Continue this process until all previously externally connected cables to the RPG cabinet have been re-labeled.

#### F.1.5 Rewire the RPG demarcation panel

The RPG project will institute a standard communications layout to replace the current site unique communications layouts. Rewiring of the communications demarcation panel is a time-consuming and error-prone installation task and ROC staff will take extra care in training installation staff in this area.

Reference Attachment U.

#### F.1.6 Power Up

Use the procedures in Table F.1.6-1 below to power up the RPG. Reference Chapter 4, Section 4.5.3 of EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems).

**Table F.1.6-1 RPG Group Startup Procedure**

| Step | Equipment/Location       | Action/Procedure                                   | Indication/Reference                           |
|------|--------------------------|--|--|
| 1    | MLOS Transceiver cabinet | Set the Power switch to the On position (if used). | Applies power to the MLOS Transceiver cabinet. |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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| Step | Equipment/Location  | Action/Procedure   | Indication/Reference  |
|------|---|--|---|
| 2    | For FAA redundant systems, Secondary AC Power Panel located on the wall of the Equipment Shelter. | Set circuit breakers CB25, 27, and 29 (ganged) to the On position for Channel 1, and CB26, 28, and 30 (ganged) to the On position for Channel 2. | Applies AC power to the RPGPCA UD170 Channel 1 and UD70 Channel 2 cabinets. Also applies power to all of the equipment in the RPG Group that is not on the UPS.                                 |
|      | For DOD systems, Secondary AC Power Panel located on the wall of the Equipment Shelter.           | Set circuit breakers CB25, 27, and 29 (ganged) to the On position.   | Applies AC power to the RPGPCA UD70 cabinets. Also applies power to all of the equipment in the RPG Group that is not on the UPS.   |
|      | For NWS systems, Office/Building Power Panel  | Set the appropriate circuit breakers to the On position.   | Applies AC power to the RPGPCA UD70 cabinets. Also applies power to all of the equipment in the RPG Group that is not on the UPS.   |
| 3    | Power Distribution Panel UD70/170A22  | Set circuit breaker (CB1) to the ON (1) position   | Applies power to UPS and to all equipment in the RPG cabinet not connected to the UPS   |
| 4    | Sun Processors in the RPGPCA Cabinet  | Turn off the power switches on the Sun processors prior to turning on the UPS.   | The power up procedures must end in a state that has everything powered up except the Sun processors. This will be the initial condition of the system prior to beginning checkout and testing. |
| 5    | UPS UD70A11   | Set the Power switch to the On (1) position.   | Applies power to all remaining equipment in the RPG cabinets, except the Sun processors   |
| 6    | RPGPCA  | With the exception of the Sun processors in the RPGPCA, ensure the monitor and all other devices have their power switches turned on.            | Some other devices may have been left turned off when the RPGPCA Assembly was completed.  |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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F.2 DOD Systems

F.2.1 Move RPG into Position

For DOD systems, the only available temporary storage area within the shelter may be between the RDA's transmitter cabinet (UD3) and the RDADP cabinets (UD5).

Reference Section F.1.1.

F.2.2 Power Down the Legacy RPG

Reference Section F.1.2.

F.2.3 Remove Equipment from Legacy RPG cabinets for reuse in RPG Cabinets and disconnect external cables

F.2.3.1 Modem Cards

Reference Section F.1.3.1

F.2.3.2 Disconnect External Cabling

(Refer to EHB 6-520 WSR–88D RPG Maintenance Manual (Legacy Systems), FO7-1.1 WSR-88D System Communication, Interface Diagram, Sheet 1 of 6)

F.2.3.2.1 AC Input Power Cable W9 Disconnect Procedure.

Reference Section F.1.3.2.1

F.2.3.2.2 Disconnect the External Ground wire (P/N 1219716-302, 1219716-304) from the ground stud on the Cable Entry Panel

Reference Section F.1.3.2.2

F.2.3.2.3 Procedures to Disconnect Communication Cables.

Locate and disconnect the external cables identified in Table F.2.3.2.3-1. (Refer to EHB 6-520 WSR–88D RPG Maintenance Manual (Legacy Systems), FO7-1.1 WSR-88D System Communication, Interface Diagram, Sheet 1 of 6)

Table F.2.3.2.3-1 Disconnect DOD External Cables

| From         | Cable ID     | To                | Connection | Disposition |
|--------------|--------------|-------------------|------------|-------------|
| Demarc Frame | W44          | Cable Entry Panel | J1         | Reuse       |
| Demarc Frame | W45          | Cable Entry Panel | J2         | Reuse       |
| Demarc Frame | W46*         | Cable Entry Panel | J3         | Reuse**     |
| Demarc Frame | W39*         | Cable Entry Panel | J4         | Remove      |
| RDA          | W36          | Cable Entry Panel | J19        | Reuse       |
| RDA          | W95*         | Cable Entry Panel | J17        | Reuse       |
| RIDDS T1     | Unspecified* | Cable Entry Panel | J21        | Remove      |

\* Site dependent

\*\* Only reuse if a new W46 is not provided. If a new W46 is provided, replace this cable with the new cable.

F.2.3.2.4 Disconnect large ground wire from copper grounding bar on cabinet.

Retain connecting hardware for reuse.

F.2.3.3 Remove the Legacy RPG

F.2.3.3.1 Reference Section F.1.3.3.

F.2.3.3.2 If the new cabinets do not have a ground bar installed, ensure the ground bar installation (if present) on top of the legacy cabinet is removed and all hardware is maintained for re-installation to the new system. For 3-Bay cabinets, the ground bar must also be completely removed to allow the cabinets to be separated and maneuvered within the shelter.

F.2.3.3.3 Remove front and rear doors to minimize total depth of cabinet. If cabinet still does not clear passageways (primarily the shelter wall junction box), it will be necessary to retract the door latches from at least one side of the cabinets as follows:

STEP 1. Remove the top latch retaining screw.

STEP 2. Insert the provided latch retainment screw into the top hole and thread it in until the mark on the screw reaches the cabinet mounting rail.

STEP 3. Remove the bottom latch retaining screw.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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STEP 4. Tilt and swivel the latch until the majority of the latch is retracted into the cabinet interior. Use a piece of tape across the opening to keep the latch retracted while moving the cabinets.

Reverse these steps to reinstall latches.

F.2.3.3.4 3-Bay Cabinets: Disconnect cabling running through access ports. Minimize components affected. Separate 3<sup>rd</sup> bay as described in Section J.4. The single cabinet should be easily removed from the shelter. Remove the cabinet pair per Section F.2.3.3.3 above.

F.2.3.3.5 It will be necessary to remove the same hardware from the new cabinet (hopefully, mounting will not fall) when maneuvering cabinet into place.

## F.2.4 Connect and Re-label External Cabling

### F.2.4.1 Connect External Cabling

(Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1 WSR-88D System Communication, Interface Diagram, Sheet 1 of 6)

#### F.2.4.1.1 AC Input Power Cable W200 Installation Procedure

Reference Section F.1.4.1.1

#### F.2.4.1.2 Connect the External Ground wire (P/N 1219716-302, 1219716-304) to the ground stud on the Cable Entry Panel

Reference Section F.1.4.1.2

#### F.2.4.1.3 Procedures to Connect Communication Cables

### NOTE

**For the cables that must be re-labeled (W9, W44, W45, W46, W36 and/or W95), it is easier to remove the old label and attach the new label at this end (See F.1.4.2) before the cables are connected. Re-label cables one at a time so that they do not get mixed up.**

Locate and connect the external cables identified in Table F.2.4.1.3-1. (Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1 WSR-88D System Communication, Interface Diagram, Sheet 1 of 6)

**Table F.2.4.1.3-1 Connect DOD External Cables**

| SIZE       | CAGE CODE | DWG NO.          | REV |
|------------|-----------|------------------|-----|
| A          | 0WY55     | 2640002          | B   |
| SCALE NONE |           | SHEET 143 OF 389 |     |

| From                        | Cable ID | To                | Connection |
|-----------------------------|----------|-------------------|------------|
| Demarc Frame                | W44      | Cable Entry Panel | J1         |
| Demarc Frame                | W45      | Cable Entry Panel | J2         |
| Demarc Frame                | W46      | Cable Entry Panel | J3         |
| RDA                         | W36      | Cable Entry Panel | J19        |
| RDA                         | W95      | Cable Entry Panel | J17        |
| TELCO T1 (Remote BDDS only) | W111*    | Cable Entry Panel | CP7        |

\* Site Dependent

F.2.4.1.4 Reinstall copper grounding bar and associated hardware removed in Section F.2.3.3.2 above.

F.2.4.2 Re-label External Cabling

Reference Section F.1.4.2

F.2.5 Rewire the RPG demarcation panel

The RPG project will institute a standard communications layout to replace the current site unique communications layouts. Rewiring of the communications demarcation panel is a time-consuming and error-prone installation task and ROC staff will take extra care in training installation staff in this area.

Reference Attachment U.

F.2.6 Rewire RDADP to Support Console Connection to New RPG

The legacy RPG console connection is presently switched into the RDADP RRRAT processor COM 3 port via an A/B Switch (5A17) in the RDADP cabinets. The switch will be removed and the console connection from the new RPG will be rerouted to the RRRAT COM 1 port to support a HyperTerminal-type console session.

**STEP 1. Open both the front and rear doors of the RDADP (UD5) left bay (aligned with RPG left bay).**

**STEP 2. Disconnect cables 5/105W633 and 5/105W623 from the A and B ports of A/B Switch 5A17.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 3.      Locate the present DB25/DB9 adapter connected to the COM 3 port at the back of the RRRAT processor. At the DB25 end, disconnect cable 5/105W903 from the adapter.**

**NOTE**

**Cable 5/105W903 may not be marked correctly or have any cable markings at all. If necessary, this cable can be traced back to the common (C) output from the 5A17 A/B switch.**

- STEP 4.      Dislodge the A/B switch from the side wall of the cabinet and remove the switch with cable 5/105W903 still attached. These items will not be reused.**
- STEP 5.      Using the supplied new labels, re-label cable 5/105W623 to be 5/105W913 and re-label cable 5/105W633 to be 5/105W914.**
- STEP 6.      Connect cable 5/105W913 to the original DB25/DB9 adapter connected to the RRRAT processor COM 3 port. On the RDA's RRRAT processor Systems Console window, press <CR> several times to verify a good asterisk prompt is returned.**
- STEP 7.      Using the new supplied DB25/DB9 adapter (2200025-201), connect cable 5/105W914 to the RRRAT processor COM 1 port (very bottom of processor, labeled "A").**

**F.2.7    Power Up**

Reference Section F.1.6.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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### F.3 DOT Systems

This procedure will be performed for Channel 1 and Channel 2 on separate days.

#### F.3.1 Ensure Redundant Channel is in Control/Operational and Bypass Relay Box

##### F.3.1.1 Ensure Redundant Channel is in Control and Operational

The retrofit should be performed on Channel 1 first because the Remote UCP interface is only in the Channel 2 cabinets. Contact the UCP operator, ask them to ensure the other channel (Channel 2) is in Control and Active (EHB 6-520, Table 4-5.5) and that the system is operational.

If the Channel 2 legacy RPG is defective (non-external interface problem; e.g., a processor problem), then the retrofit could be performed on the Channel 2 RPG first so that Channel 1 can be left running as the Active channel in legacy mode. However, as soon as the retrofit starts, the Remote UCP link would no longer be functional but the system could be controlled from the RDA by personnel in the shelter. Contact the UCP operator, ask them to ensure that Channel 1 is in Control and Active (EHB 6-520, Table 4-5.5), that they have the system in operation in the desired VCP, and that the system is operational. Then ask them to enable Local Control to the RDA (EN, RD). At the RDA MMI on that channel, request Local Control (RELC) and verify MODE indicates MMI. If site technicians are assisting at the site, they can assist with performing control commands or further operability checks at the RDA MMI terminal.

##### F.3.1.2 Bypass Relay Box and Rewire Relay Box

Since the retrofit of the first channel will take approximately two days, a good opportunity exists to be able to rewire the relay box during this time frame. This will save approximately two hours of total system downtime as compared to the total system downtime that would occur if the relay box is rewired immediately after the first channel is retrofitted. Also, since time to complete the task will not be as critical at this point, additional caution and scrutiny can be exercised while rewiring the relay box. Perform the following steps:

**Step 1. Disconnect the cables as indicated in Table F.3.6.7.2-1.**

**Step 2. If legacy Channel 2 is to remain operational at this point, connect Cables W44 and W162 together. If legacy Channel 1 is to remain operational at this point, connect cables W44 and W169 together. Verify the appropriate dedicated user modems in that channel reconnect.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Step 3. As time permits during completion of Section F.3.4 below, complete the relax box rewiring in accordance with the procedures established in Section F.3.6.7.**

**F.3.2 Power down the Legacy RPG**

Reference Section F.1.2.

**F.3.3 Disconnect External Cables**

**F.3.3.1 Disconnect External Cabling**

(Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.2 FAA Redundant WSR-88D System Communication, Interface Diagram)

**F.3.3.1.1 AC Input Power Cable UD22/W9 (Channel 2) or UD122/W109 (Channel 1) Disconnect Procedure.**

Reference Section F.1.3.2.1

**F.3.3.1.2 Disconnect the External Ground wire (P/N 1219716-302, 1219716-304) from the ground stud on the Cable Entry Panel**

Reference Section F.1.3.2.2

**F.3.3.1.3 Procedures to Disconnect Communication Cables**

Locate and disconnect the external cables identified in Table F.3.3.3.3-1 (Channel 2) or Table F.3.3.3.3-2 (Channel 1) as appropriate. (Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.2 FAA Redundant WSR-88D System Communication, Interface Diagram)

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table F.3.3.1.3-1 Disconnect DOT External Cables for RPG UD22 (Channel 2)**

| <b>From</b>    | <b>Cable ID</b> | <b>To</b>         | <b>Connection</b> | <b>Disposition</b> |
|----------------|-----------------|-------------------|-------------------|--------------------|
| RDA            | W36/136         | Cable Entry Panel | UD22 J19          | Reuse              |
| RMS            | NR0C08x022**    | Cable Entry Panel | UD22 J17          | Reuse              |
| Relay Box UD31 | W162            | Cable Entry Panel | UD22 J1           | Reuse              |
| Relay Box UD31 | W163            | Cable Entry Panel | UD22 J2           | Reuse              |
| Relay Box UD31 | W164*           | Cable Entry Panel | UD22 J3           | Reuse              |
| Relay Box UD31 | W166            | Cable Entry Panel | UD22 J12          | Reuse              |
| Relay Box UD31 | W168            | Cable Entry Panel | UD22 J22          | Reuse              |
| RPG UD122      | W116            | Cable Entry Panel | UD22 J6           | Remove             |
| RPG UD122      | W118            | Cable Entry Panel | UD22 J7           | Remove             |
| RPG UD122      | W128            | Cable Entry Panel | UD22 J9           | Remove             |
| RMS            | NR0A08x022**    | Cable Entry Panel | UD22J16           | Reuse              |
| RMS            | NR0C02x022**    | Cable Entry Panel | UD22J15           | Reuse              |

\* Site dependent

\*\* FAA supplied cables. Cable IDs may not actually be on the cables. If not, temporarily label cables indicating appropriate I/O Panel Jack Number.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table F.3.3.1.3-2 Disconnect DOT External Cables for RPG UD122 (Channel 1)**

| <b>From</b>    | <b>Cable ID</b> | <b>To</b>         | <b>Connection</b> | <b>Disposition</b> |
|----------------|-----------------|-------------------|-------------------|--------------------|
| RDA            | W36/136         | Cable Entry Panel | UD122 J19         | Reuse              |
| RMS            | NR0C06x122**    | Cable Entry Panel | UD122 J17         | Reuse              |
| Relay Box UD31 | W169            | Cable Entry Panel | UD122 J1          | Reuse              |
| Relay Box UD31 | W170            | Cable Entry Panel | UD122 J2          | Reuse              |
| Relay Box UD31 | W171*           | Cable Entry Panel | UD122 J3          | Reuse              |
| Relay Box UD31 | W173            | Cable Entry Panel | UD122 J12         | Reuse              |
| Relay Box UD31 | W178            | Cable Entry Panel | UD122 J22         | Reuse              |
| RPG UD122      | W116            | Cable Entry Panel | UD122 J6          | Remove             |
| RPG UD122      | W118            | Cable Entry Panel | UD122 J7          | Remove             |
| RPG UD122      | W128            | Cable Entry Panel | UD122 J9          | Remove             |
| RMS            | NR0A07x022**    | Cable Entry Panel | UD122J16          | Reuse              |
| RMS            | NR0C01x022**    | Cable Entry Panel | UD122J15          | Reuse              |

\* Site dependent

\*\* FAA supplied cables. Cable IDs may not actually be on the cables. If not, temporarily label cables indicating appropriate I/O Panel Jack Number.

### F.3.4 Strip/Assemble Cabinets, Reallocate Modems, and Label Cables

For all FAA systems, the legacy cabinets will be stripped of obsolete parts on-site and the new components (configured and pre-tested at Kansas City) will be installed at this time. A trained assembly person is provided to perform this task and this is not actually considered part of a normal INCO. However, normal INCO personnel can assist with this effort under direction of the provided assembly person. Also, at this time, three normal INCO activities can occur. First of all, cables that will not be reused as indicated in the previous tables can be completely removed at this time. Modem cards can be reallocated within the modem rack (F.3.4.1 below) and the cables to be reused can be relabeled (F.3.4.2 below.)

#### F.3.4.1 Reallocate Modem Cards

#### NOTE

**The modems will all need to be marked and removed from the modem rack to allow the assembly person to change out the modem rack backplane. They can not be reinserted until the new modem backplane is installed.**

**Reference Section F.1.3. In NWS and DOD Conus installations, modem cards were moved from the legacy RPG modem rack to the new RPG modem rack. In this case, modem cards will just be reallocated within the same modem rack. Regardless, the new modem locations will be determined as indicated in Section F.1.3 to match the Post Circuit Report. Remember, that for the four dial modem cards selected for slots one through four, it is always best to reuse cards that were previously in-use and validated to be good during the Pre-INCO dial-in tests.**

#### F.3.4.2 Re-label External Cables

Reference Section F.1.4.2

### F.3.5 Connect External Cabling

Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1 WSR-88D System Communication, Interface Diagram, (Sheet 4 of 5)

#### F.3.5.1 Connect External Cabling

F.3.5.1.1 AC Input Power Cable UD70/W9 (Channel 2) or UD170/W109 (Channel 1) Installation Procedure.

Reference Section F.1.4.1.1

F.3.5.1.2 Connect the External Ground wire (P/N 1219716-302, 1219716-304) from the ground stud on the Cable Entry Panel

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## F.3.5.1.3 Procedures to Connect Communication Cables.

Locate and connect the external cables identified in Table F.3.5.1.3-1 (Channel 2) or Table F.3.5.1.3-2 (Channel 1) as appropriate. (Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1 WSR-88D System Communication, Interface Diagram, Sheet 4 of 5)

**Table F.3.5.1.3-1 Connect DOT External Cables for RPG UD70 (Channel 2)**

| From                              | Cable ID | To                | Connection |
|-----------------------------------|----------|-------------------|------------|
| RDA                               | W36/136  | Cable Entry Panel | UD70 J19   |
| Relay Box UD31                    | W162     | Cable Entry Panel | UD70 J1    |
| Relay Box UD31                    | W163     | Cable Entry Panel | UD70 J2    |
| Relay Box UD31                    | W164     | Cable Entry Panel | UD70 J3    |
| Relay Box UD31                    | W166     | Cable Entry Panel | UD70 J12   |
| Relay Box UD31                    | W168     | Cable Entry Panel | UD70 J22   |
| Relay Box UD31 (Remote BDDS only) | W142*    | Cable Entry Panel | UD70 CP7   |
| RPG UD170                         | W113     | Cable Entry Panel | UD70 CP8   |
| RPG UD170                         | W114     | Cable Entry Panel | UD70 CP9   |
| RMS                               | TBD***   | Cable Entry Panel | UD70 CP2   |
| RMS                               | TBD***   | Cable Entry Panel | UD70 CP3   |
| RMS                               | TBD**    | Cable Entry Panel | UD70 J15   |
| RMS                               | TBD**    | Cable Entry Panel | UD70 J16   |
| RMS                               | TBD**    | Cable Entry Panel | UD70 J17   |

\* Site dependent

\*\* RMS Cables (FAA Supplied). These cables may not be labeled and/or new labels may not be supplied.

\*\*\* New RMS cables installed by the FAA at INCO time.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table F.3.5.1.3-2 Connect DOT External Cables for RPG UD170 (Channel 1)**

| <b>From</b>                      | <b>Cable ID</b> | <b>To</b>         | <b>Connection</b> |
|----------------------------------|-----------------|-------------------|-------------------|
| RDA                              | W36/136         | Cable Entry Panel | UD170 J19         |
| Relay Box UD31                   | W169            | Cable Entry Panel | UD710 J1          |
| Relay Box UD31                   | W170            | Cable Entry Panel | UD170 J2          |
| Relay Box UD31                   | W171            | Cable Entry Panel | UD170 J3          |
| Relay Box UD31                   | W173            | Cable Entry Panel | UD170 J12         |
| Relay Box UD31                   | W178            | Cable Entry Panel | UD170 J22         |
| Relay Box UD31(Remote BDDS Only) | W152*           | Cable Entry Panel | UD170 CP7         |
| RPG UD70                         | W113            | Cable Entry Panel | UD170 CP8         |
| RPG UD70                         | W114            | Cable Entry Panel | UD170 CP9         |
| RMS                              | TBD***          | Cable Entry Panel | UD170 CP2         |
| RMS                              | TBD***          | Cable Entry Panel | UD170 CP3         |
| RMS                              | TBD**           | Cable Entry Panel | UD170 J15         |
| RMS                              | TBD**           | Cable Entry Panel | UD170 J16         |
| RMS                              | TBD**           | Cable Entry Panel | UD170 J17         |

\* Site dependent

\*\* RMS Cables (FAA Supplied). These cables may not be labeled and/or new labels may not be supplied.

\*\*\* New RMS cables installed by the FAA at INCO time.

F.3.5.1.4 Connect cable W112 from Relay Box UD31J25 to Telco T1 (for Remote BDDS only).

#### F.3.6 First Channel Checkout/Reconfiguration/Switchover

If this is the first RPG channel replaced, continue with sections F.3.6.1 through F.3.6.8. If this is the second channel, proceed to F.3.7.

##### F.3.6.1 Preliminary Setup For First Channel Checkout

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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From the first Channel, temporarily disconnect cables:

W166 or W173 from RPG I/O Panel J12

W168 or W178 from RPG I/O Panel J22

#### F.3.6.2 Power Up (First Channel)

Reference Section F.1.6.

#### F.3.6.3 Initial Checkout Tests

Complete Attachment H checkout tests on the first channel through Section H.1.7.1 and H.1.7.4 (skip H.1.7.2 and H.1.7.3). This will verify most of the RPG functionality prior to impacting full system operation.

#### F.3.6.4 Channel Switchover

Perform the following steps to switch from the legacy RPG channel to the newly installed RPG channel:

**STEP 1. Power down the legacy RPG channel. Reference Section F.1.2.**

**STEP 2. At the new RPG channel, disconnect power cable 70/170W150 at power strip UD70/170J23.**

**STEP 3. Reconnect cables temporarily disconnected at the new RPG:**

**W166 or W173 to RPG I/O Panel J12**

**W168 or W178 to RPG I/O Panel J22**

**STEP 4. At the new RPG channel, reconnect power cable 70/170W150 at power strip UD70/170J23.**

**STEP 5. In most cases, the new ORPG should assume control automatically (become “Active/Controlling”) as long as a good wideband link exists to its RDA. If not, at the RDAs, switch channel control from the legacy channel to the new RPG channel. Reference EHB 6-510 Table 4-4.6. To actually switch channel control, it is important that the present controlling channel at the RDA be in local control (MODE MMI) while the present non-controlling channel (connected to new RPG) indicate that either the RDA or RPG can control the RDA (MODE L/R). After the Channel switch, the new RPG channel should have a functional wideband link and can achieve RDA control.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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### F.3.6.5 Continue Checkout (First Channel)

Perform Checkout Test sections H.1.7.2 and H.1.7.6.

### F.3.6.6 Rewire the RPG demarcation panel

The RPG project will institute a standard communications layout to replace the current site unique communications layouts. Rewiring of the communications demarcation panel is a time-consuming and error-prone installation task and ROC staff will take extra care in training installation staff in this area.

Reference Attachment U.

### F.3.6.7 Rewire Relay Box

With present relay box wiring, the 1st dedicated circuit in the UD31 box is not switchable and it has to be with Open Systems RPGs installed. This procedure is for rewiring the 1<sup>st</sup> dedicated circuit in the relay box so that it is switchable. The following contains the recommended tools and procedure to complete the task. The procedure will disrupt proper operation of all narrowband links.

#### F.3.6.7.1 Tools Required:

See Table F.3.6.7.1-1.

**Table F.3.6.7.1-1 Tools Required to Rewire Relay Box**

|   |   |
|---|---|
| Flat-tip screwdriver, one (1) large                                   | Flashlight  |
| Flat-tip screwdriver, one (1) small                                   | Step Ladder.  |
| Red/White Insertion/Extraction Tool<br>(Newark 44F8729 or equivalent) | Diagonal or Flush cutters                                     |
| 3/16" inch Hex nutdriver  | Thin Needlenose Pliers  |
| Wire Markers or Tape (For temporary Identification)                   | Tie Wraps (About twelve (12) seven or eight inches in length) |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## F.3.6.7.2 Procedures

**STEP 1. Disconnect the cables connected to the UD31 relay box as indicated in Table F.3.6.7.2-1 (if not already disconnected).**

**Table F.3.6.7.2-1 Cables Disconnected From Relay Box**

| Item | Cable Reference Designation | Location |
|------|-----------------------------|----------|
| 1    | W162                        | UD31J3   |
| 2    | W169                        | UD31J8   |
| 3    | W44                         | UD31J14  |

**NOTE**

**In the next step, empty pins 26 and 27 must be removed. Pin 25 is also empty. Count the pins carefully to ensure the correct pins are removed. Pin 25 must remain in the connector.**

**STEP 2. Using the Red & White extraction tool, remove the following pins from the UD31J8 connector - 1, 2, 26, & 27. These will be used as spares if a pin breaks off a wire during this MOD Note.**

**Follow the steps specified in Table F.3.6.7.2-2 to rewire the relay box.**

**When removing pins (with or without wires attached), it is best to use the white end of the extraction tool. With a wire attached, ensure the wire is coming straight down from the connector and work the extractor around the wire. Push extractor up into the connector. When fully inserted into the connector, an additional slight upward push and twist should unlock the pin allowing it to be extracted.**

**Tie wraps may have to be cut (as necessary) to perform the following steps. UD31J3 must be unmounted/pulled out to gain better access to the connector. Completely remove the front screw of the connector. Loosen the rear screw approximately half-way to allow connector to be unmounted from the box. Retain connector mounting hardware for reuse.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table F.3.6.7.2-2 Steps to Rewire Relay Box**

| Step | Conductor-AUX Number | Action | From   | To     |
|------|----------------------|--------|--------|--------|
| 1    | 236-1 (W)            | Remove | J14-1  | J3-1   |
| 2    | 236-2 (B)            | Remove | J14-26 | J3-26  |
| 3    | 237-1 (W)            | Remove | J14-2  | J3-2   |
| 4    | 237-2 (B)            | Remove | J14-27 | J3-27  |
| 5    | 225-1 (W)            | Move * | J13-22 | J14-1  |
| 6    | 225-2 (B)            | Move   | J13-4  | J14-26 |
| 7    | 226-1 (W)            | Move * | J13-23 | J14-2  |
| 8    | 226-2 (B)            | Move   | J13-5  | J14-27 |
| 9    | 342-1 (W)            | Move * | J19-22 | J3-1   |
| 10   | 342-2 (B)            | Move   | J19-4  | J3-26  |
| 11   | 343-1 (W)            | Move * | J19-23 | J3-2   |
| 12   | 343-2 (B)            | Move   | J19-5  | J3-27  |
| 13   | 353-1 (W)            | Move * | J20-22 | J8-1   |
| 14   | 353-2 (B)            | Move   | J20-4  | J8-26  |
| 15   | 354-1 (W)            | Move * | J20-23 | J8-2   |
| 16   | 354-2 (B)            | Move   | J20-5  | J8-27  |

*\* If moving multiple twisted pairs at the same time remember to mark one pair using wire markers or tape.*

- STEP 3.** Insert the pins removed from J8 in the empty J19 connector for EMI/RFI & Dust/dirt protection. Cut the ends off the four (4) removed wires leaving about 2 inches of wire on each of the eight (8) pins. Insert the eight (8) pins back into the empty J13 (male) and J20 (female) connectors.
- STEP 4.** Remount the J3 connector in its original location on the UD31 relay box. Replace (as necessary) the tie wraps that were cut/removed.
- STEP 5.** Reconnect the cables that were disconnected in Table F.3.6.7.2-1. If this procedure was performed while Channel 1 was being retrofitted first (Channel 2 still active as a legacy RPG), then verify that all Channel 2 dedicated user modems reconnect including the UCP modem in slot 11.

#### F.3.6.8 Narrowband Checkout (First Channel)

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Perform Checkout Test section H.1.8.

#### F.3.6.9 Testing (First Channel)

All installation requirements and RPG checkout tests are complete for the first channel. Assuming the Distant MSCF is connected and checkout tests completed (Attachment O), Operations/test team personnel at the Distant MSCF location can continue with final checkouts on this channel (sections H.2 through H.6).

Return to F.3.1 to perform installation of second RPG.

#### F.3.7 Power Up (Second Channel)

Reference Section F.1.6.

#### F.3.8 Checkout/Testing (Second Channel)

Complete Attachment H Tests on the second installed channel.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 4. Remove the Short Haul Modem from the legacy RPG cabinet and set aside for installation .**

F.4.3.2.2 Installation Procedure

Refer to Drawing 2300006, Sheets 5 and 10, Detail P for the location

One technician is required for this procedure.

Equipment and Tools Required: 1. Screwdriver set, flat-tip  
2. Screwdriver set, Phillips-tip

Initial Conditions/Preliminary Setup:

Open the RPGPCA cabinet doors and locate the position to install the Short Haul Modem UD70A19

**STEP 1. Insert the Short Haul Modem into the RPGPCA cabinet.**

**STEP 2. Install retaining brackets to Short Haul Modem using the proper screwdriver.**

**STEP 3. Connect UD70/170W257 to the DTE port at the Short Haul Modem.**

**STEP 4. Connect UUD70/170W86 to the back of the Short Haul Modem.**

**STEP 5. Ensure the Short Haul Modem's DCE/DTE Switch is set to DCE.**

F.4.3.3 Disconnect External Cabling

(Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.1 WSR-88D System Communication, Interface Diagram, Sheet 6 of 6)

F.4.3.3.1 AC Input Power Cable W200 Disconnect Procedure.

Reference Section F.1.3.2.1

F.4.3.3.2 Disconnect the external ground wire from the ground stud on the RPG Cable Entry Panel

Reference Section F.1.3.2.2

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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#### F.4.3.3.3 Procedures to Disconnect Communications Cables

Locate and disconnect the external cables identified in Table F.4.3.3.3-1. (Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.1 WSR-88D System Communication, Interface Diagram, Sheet 6 of 6, and FO7-1.4)

**Table F.4.3.3.3-1 Disconnect DOC MLOS External Cables**

| From             | Cable ID | To                | Connection | Disposition |
|------------------|----------|-------------------|------------|-------------|
| Demarc Frame     | W201     | Cable Entry Panel | UD22 J1    | Reuse       |
| Demarc Frame     | W202     | Cable Entry Panel | UD22 J2    | Reuse       |
| Demarc Frame     | W230*    | Cable Entry Panel | UD22 J3    | Reuse       |
| PUP or AWIPS     | W328     | Cable Entry Panel | UD22 J5    | Reuse       |
| UCP              | W209     | Cable Entry Panel | UD22 J16   | Remove      |
| 42SES2-AUX       | W215     | Cable Entry Panel | UD22 J17   | Remove      |
| MLOS Transceiver | W251     | Cable Entry Panel | UD22 J19   | Reuse       |
| MLOS Transceiver | W250     | Cable Entry Panel | UD22 J20   | Reuse       |
| Demarc Frame     | W229*    | Cable Entry Panel | UD22 J4    | Remove      |

\*Site dependent

#### F.4.3.4 Remove the Legacy RPG

Reference Section F.1.3.3

#### F.4.4 Connect and Re-label External Cabling

(Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1. WSR-88D System Communication, Interface Diagram, Sheet 4 of 6)

##### F.4.4.1 Connect External Cabling

(Refer to FO7-1 WSR-88D System Communication, Interface Diagram, Sheet 4 of 6)

##### F.4.4.1.1 AC Input Power Cable W200 Installation Procedure.

Reference Section F.1.4.1.1

##### F.4.4.1.2 Connect the external ground wire to the ground stud on the RPG Cable Entry Panel

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## Reference Section F.1.4.1.2

## F.4.4.1.3 Procedures to Connect Communications Cables

**NOTE**

**For the cables that must be re-labeled (W200, W201, W202, W230, W328, W216 and/or W218), it is easier to remove the old label and attach the new label at this end (See F.1.4.2) before the cables are connected. Re-label cables one at a time so that they do not get mixed up.**

Locate and connect the external cables identified in Table F.4.4.1.3-1. (Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1. WSR-88D System Communication, Interface Diagram, Sheet 3 of 5, and FO7-2, Sheet 1)

**Table F.4.4.1.3-1 Connect DOC MLOS External Cables**

| <b>From</b>                    | <b>Cable ID</b> | <b>To</b>         | <b>Connection</b> |
|--------------------------------|-----------------|-------------------|-------------------|
| Demarc Frame                   | W201            | Cable Entry Panel | UD70 J1           |
| Demarc Frame                   | W202            | Cable Entry Panel | UD70 J2           |
| Demarc Frame                   | W230*           | Cable Entry Panel | UD70 J3           |
| PUP or AWIPS                   | W328            | Cable Entry Panel | UD70 J5           |
| MSCF                           | W331**          | Cable Entry Panel | UD70 CP1          |
| MLOS Transceiver               | W251            | Cable Entry Panel | UD70 J19          |
| MLOS Transceiver               | W250            | Cable Entry Panel | UD70 J20          |
| UD79A1 Printer                 | W332**          | Cable Entry Panel | UD70 CP10         |
| AWIPS Plain Tree Switch Port 3 | W340***         | Cable Entry Panel | UD70 CP6          |

\*Site dependent

\*\* Will be routed to MSCF/Printer location during completion of Attachment N.

\*\*\* Discuss routing of this cable to the AWIPS with site technicians. Route and complete this interconnection at this time. If there is only one RPG in a forecast office, the W340 cable is connected to the AWIPS Primary Plain Tree switch. For a second RPG in the same office, the W340 cable is connected to the Secondary AWIPS Plain Tree switch.

## F.4.4.2 Re-label External Cables

## Reference Section F.1.4.2

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## F.4.4.3 Re-label Short Haul Modem Cable

## F.4.5 Rewire the RPG Demarcation Panel

The RPG project will institute a standard communications layout to replace the current site unique communications layouts. Rewiring of the communications demarcation panel is a time-consuming and error-prone installation task and ROC staff will take extra care in training installation staff in this area.

Reference Attachment U.

## F.4.6 Power Up

Reference Section F.1.6.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

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## F.5 DOC RPG Move Systems

### F.5.1 Move RPG into Position

Reference Section F.1.1.

### F.5.2 Items performed by ROC prior to INCO

The following items will be performed by a ROC representative just prior to the INCO (no action required by INCO team).

1. Installation of the new surge suppressor assembly in the shelter.
2. Installation of the new shelter wideband cabling between the RDADP and the new shelter surge suppressor assembly.
3. Installation of the new surge suppressor assembly in the building.
4. Connection of the new building-to-shelter wideband cable.
5. Installation of the new building wideband cabling between new RPG location and the new building surge suppressor assembly.
6. Installation of the new building narrowband cabling between the phone room and the new RPG location (if not pre-installed by facilities people)
7. Routing of new cable W328 from RPGPCA location to PUP cabinet location.

### F.5.3 Connect External Cabling

(Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-1. WSR-88D System Communication, Interface Diagram, Sheet 2 of 6)

#### F.5.3.1 Connect External Cabling

##### F.5.3.1.1 AC Input Power Cable and Ground Wire W200 Installation Procedure.

Reference Section F.1.4.1.1

##### F.5.3.1.2 Procedures to Connect Communication Cables.

With the RPG now moved into the building, the system is now a Private T1 configuration.

Reference Section F.1.4.1.2

##### F.5.3.1.3 Items performed by ROC during INCO.

The following items will be performed by a ROC representative :

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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1. Installation of the new RDA CSU in RDADP
2. Installation of the new RDADP cabling to support new CSU
3. Reinstallation of PUP modem eliminator and cables in the PUP cabinet (at INCO time)
4. Connect new W328 at PUP Cabinet I/O panel.
5. Connect new narrowband comm cables at building demarcs.

These items should be performed while the INCO team completes items F.5.4 and F.5.5.

#### F.5.4 Remove modems from Legacy RPG cabinets for reuse in RPG Cabinets

### NOTE

#### Label modem slots.

Reference Section F.1.3.1

#### F.5.5 Rewire the RPG demarcation panel

The RPG project will institute a standard communications layout to replace the current site unique communications layouts. Rewiring of the communications demarcation panel is a time-consuming and error-prone installation task and ROC staff will take extra care in training installation staff in this area.

Reference Attachment U.

#### F.5.6 Power Up

Reference Section F.1.6.

**STOP. Proceed to Attachment H. Mark this page and return to complete remaining section F.5 requirements only after all Attachment H and Attachment N requirements are completed.**

#### F.5.7 Power Down the Legacy RPG

Reference Section F.1.2.

#### F.5.8 Disconnect External Cabling

Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.1. WSR-88D System Communication, Interface Diagram, (Sheet 1 of 6 (RDA Group Only) and Sheet 4 of 6).

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

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### F.5.8.1 AC Input Power Cable W200 Disconnect Procedure.

Reference Section F.1.3.2.1

### F.5.8.2 Disconnect the External Ground wire from the ground stud on the Cable Entry Panel

Reference Section F.1.3.2.2

### F.5.8.3 Procedures to Disconnect Communication Cables.

The DOC shelterized Legacy RPG is cabled similar to a DOD system with a couple of extra cables. Locate and disconnect the cables identified in Table F.5.8.3-1.

**Table F.5.8.3-1 Disconnect DOC External Cables**

| From               | Cable ID | To                | Connection | Disposition |
|--------------------|----------|-------------------|------------|-------------|
| Demarc Frame       | W44      | Cable Entry Panel | J1         | Remove      |
| Demarc Frame       | W45      | Cable Entry Panel | J2         | Remove      |
| Demarc Frame       | W46*     | Cable Entry Panel | J3         | Remove      |
| Demarc Frame       | W39*     | Cable Entry Panel | J4         | Remove      |
| RDA                | W36      | Cable Entry Panel | J19        | Remove      |
| RDA                | W95*     | Cable Entry Panel | J17        | Remove      |
| Comms Junction Box | W47      | Cable Entry Panel | J5         | Remove      |
| Comms Junction Box | W98      | Cable Entry Panel | J16        | Remove      |

\* Site dependent

### F.5.8.4 Disconnect large ground wire from copper grounding bar on cabinet.

### F.5.9 Remove the Legacy RPG

Reference Section F.1.3.3. In addition, remove all previously disconnected communications cables (no longer in use with no RPG in the shelter).

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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## Attachment G: User Account and Adaptation Data Reference

The NRC will load/setup the Suns and other components based on a specific site. The INCO Team will not have to do full software load/reconfiguration on-site, however the adaptation data will still need to be installed. The information in this attachment is provided as reference only. Subsequent procedures will specifically identify the appropriate time and additional details necessary to add user accounts and load adaptation data.

### G.1 Quick Verification of Data

Adaptation data files for the RPG and the MSCF are delivered on a floppy. A quick verification that the correct site's adaptation data is on the floppy should be performed before loading the adaptation data. The following procedure applies to both the RPG and MSCF processor:

1. Log into the CDE as a normal user.
2. At a terminal window, enter **cd<CR>**
3. Enter **cd cfg<CR>**
4. Enter **more misc\_adapt<CR>**
5. In the "Site Information" section, verify that the "RPG ID" and the rpg\_name is correct for the site being installed.

#### NOTE

**A printed matrix of site names, RPG IDs, etc.  
will be provided for reference.**

6. Enter **q<CR>** to exit the file.

## G.2 Load Adaptation Data on RPG Processor

The procedures to install adaptation data for the RPG processor are provided in Table G.2-1.

**Table G.2-1 RPG Adaptation Data Restoral at RPG Workstation**

| STEP  | ACTION/PROCEDURE  | RESPONSE/COMMENTS   |
|---|---|---|
| <p style="text-align: center;"><b>NOTE</b></p> <p><b>If a local BDDS workstation is installed in RPGPCA cabinets, Raritan user channel 1 (RPG) must be selected. Activate mouse and use the on-screen menus to log in as the Raritan&lt;CR&gt; user (no password) or, if a screen saver is not active yet, hit the &lt;Scroll Lock&gt; key twice quickly to activate the on-screen menus. Then select the RPG user channel.</b></p> |   |   |
| 1   | At the RPG workstation within the RPGPCA cabinets, log into the CDE as a normal user.   |   |
| 2   | At the RPG Ultra 10 processor, insert the floppy with the backup adaptation data into the floppy drive.   | Ensure this is the latest copy unless the latest backup is not desired.   |
| 3   | At a normal system prompt, enter:<br><b>restore_adapt_floppy -s site_ICAO&lt;CR&gt;</b> to start the RPG adaptation data restoral. See COMMENTS for description of "site_ICAO".                             | "restore_adapt_floppy" is a script program designed to restore the adaptation data from the floppy. The site_ICAO is the site mnemonic (e.g., KTLX). This four letter mnemonic must be entered as capital letters.  |
| 4   | The program will indicate:<br>--->Restoring from Floppy<br>--->Insert the adaptation backup floppy into the floppy drive<br>--->Hit return key when ready<br><br>At this point, enter:<br><b>&lt;CR&gt;</b> | The program will mount the floppy and performs all necessary restoral actions. It will take approximately 30 seconds for the restoral to complete. At the end, the program will indicate that the restoral of the adaptation data was complete. The program will also unmount the floppy. |
| 5   | When the restoral is complete, remove the floppy from the drive.  | Store the disk in a safe location. The restored adaptation data will not take affect until the applications software is shutdown (stop) and restarted (start).  |
| 6   | At a normal user prompt, enter: <b>stop&lt;CR&gt;</b>   | Stops the Applications software.  |
| 7   | At a normal user prompt, enter: <b>start&lt;CR&gt;</b>  | Starts the Applications software.   |

## G.3 Load Adaptation Data on MSCF Processor

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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The procedures to install adaptation data for the MSCF processor are provided below in Table G.3-1

**Table G.3-1 MSCF Adaptation Data Restoral at MSCF Workstation**

| STEP | ACTION/PROCEDURE  | RESPONSE/COMMENTS   |
|------|---|---|
| 1    | At the MSCF workstation, log into the CDE as a normal user.   |   |
| 2    | At the MSCF Ultra 5 processor, insert the floppy with the backup adaptation data into the floppy drive.   | Ensure this is the latest copy unless the latest backup is not desired.   |
| 3    | At a normal system prompt, enter:<br><b>restore_adapt_floppy -s site_ICAO&lt;CR&gt;</b><br>to start the RPG adaptation data restoral. See COMMENTS for description of "site_ICAO".                          | "restore_adapt_floppy" is a script program designed to restore the adaptation data from the floppy. The site_ICAO is the site mnemonic (e.g., KTLX). This four letter mnemonic must be entered as capital letters.  |
| 4    | The program will indicate:<br>--->Restoring from Floppy<br>--->Insert the adaptation backup floppy into the floppy drive<br>--->Hit return key when ready<br><br>At this point, enter:<br><b>&lt;CR&gt;</b> | The program will mount the floppy and performs all necessary restoral actions. It will take approximately 30 seconds for the restoral to complete. At the end, the program will indicate that the restoral of the adaptation data was complete. The program will also unmount the floppy. |
| 5    | When the restoral is complete, remove the floppy from the drive.  | Store the disk in a safe location. The restored adaptation data will not take affect until the user logs out and then back into the CDE.  |
| 6    | Exit out of the CDE and then log back in as "inco"  | Forces the new adaptation data to take affect.  |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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**G.4 Add New User Accounts**

Logon as System Administrator (root) and use the procedures in Table G.4-1 to add user accounts for the RPG, MSCF, and BDDS.

**Table G.4-1 Procedure to Add New User Accounts**

| STEP   | ACTION/PROCEDURE   | RESPONSE/COMMENTS   |
|--|--|---|
| <p align="center"><b>NOTE</b></p> <p><b>If this is being performed at the RPG workstation in the RPGPCA or at a local BDDS workstation in the RPGPCA, Raritan user channel 1 (RPG) or user channel 2 (BDDS) must be selected as appropriate. Activate mouse and use the on-screen menus to log in as Raritan&lt;CR&gt; user (no password) or, if a screen saver is not active yet, hit the &lt;Scroll Lock&gt; key twice quickly to activate the on-screen menus. Then select the RPG or BDDS user channel as appropriate.</b></p> |  |   |
| 1  | At the # prompt, enter:<br><b>admintool &amp;&lt;CR&gt;</b>      | Brings up admintool in background mode (doesn't tie up usage of the terminal window).   |
| <p align="center"><b>NOTE</b></p> <p><b>Steps 2 through 11 each address a specific window and are divided into two parts. The first part of the step provides the Window Name and default information in the RESPONSE/COMMENTS column. The second part of the step provides the specific action/procedure required.</b></p>  |  |   |
| 2  | Admintool: Users   | By default, access to the User accounts is available first.   |
|  | Click <u>E</u> dit <b>▶</b> <u>A</u> dd                          | Opens a window to add a user.   |
| 3  | Admintool: Add User  | Provides numerous entry blocks for user identification.   |
|  | Click in the User Name: block and type in the desired user name. | As previously indicated, all system-level applications type accounts are established by the full system software load scripts. However, for security reasons, these accounts are not actively used for manipulating the software. Individual user accounts must be created for all site users that will require access to the system applications software. |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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|   |  |   |
|---|--|---|
| 4 | Admintool: Add User  | "User Name" entry complete.   |
|   | Check the User ID: block. The system will automatically assign ID numbers beginning with 1001.   | Use default ID number or assign a unique ID. Use only ID numbers between 1001 and 20000. Do not use an ID number outside of this range.   |
| 5 | Admintool: Add User  | "User ID" entry complete.   |
|   | Click in the Primary Group: block, highlight the present group number and type:101   | All users should belong to the "rpg" group. This group will have a group number of "101". Secondary Groups are optional.  |
| 6 | Admintool: Add User  | "Primary Group" entry complete.   |
|   | Click on Bourne to bring up the shell selection sub-menu. Then click on "C" for the C shell.   | "C" shell is mandatory for all RPG, MSCF, and BDDS applications software user accounts <u>and all individual user accounts requiring access to the applications software.</u>   |
| 7 | Admintool: Add User  | "Login Shell" entry complete.   |
|   | Click on Cleared until first login (default "Password:") and then click Normal Password. In both the "Enter" and "Verify" blocks, type in the <i>desired password</i> and then click OK. | The System Administrator will control the password for all applications software accounts. For individual user accounts, security requirements dictate that the System Administrator set the password to a unique password, inform the user of the password, and advise each user that they can use the assigned password when they first log in but then select their own password (eight characters minimum with at least one alpha and one numeric character). |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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|    |   |   |
|----|---|---|
| 8  | Admintool: Add User   | "Password" entry complete.  |
|    | Click in the Path: block and type in the desired users home directory path.   | For individual user accounts, use /export/home/user_name where user_name is the same name used in step 3.   |
| 9  | Admintool: Add User   | Entries completed.  |
|    | Click OK  | Saves information and returns the user to the "Users" window.   |
| 10 | Admintool: Users  | Provides a listing of Users.  |
|    | Click <u>F</u> ile  <u>E</u> xit   | Closes Admintool. If this is an RPG or MSCF processor, proceed to step 14.  |
| 11 | Perform steps 11 through 13 if this is a BDDS processor. Otherwise, proceed to step 14. At a normal terminal window # prompt, enter:<br><b>cd /export/home/&lt;CR&gt;</b> | Changes to the home directory for all user accounts.  |
| 12 | At the # prompt, enter:<br><b>cp -p bdds/.cshrc user_name&lt;CR&gt;</b>   | Where user_name is the account name of the new user added to the BDDS system. This must be done individually for each new user account that was added.  |
| 13 | At the # prompt, enter:<br><b>chown user_name user_name/.cshrc&lt;CR&gt;</b>  | Changes ownership of the .cshrc file in the new user account to that user (user_name). This must be done individually for each new user account that was added. For a BDDS processor, this procedure is complete. |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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**NOTE**

**If the new user(s) were added at an RPG or MSCF, two configuration items are necessary for the new user(s) to be able to run the applications software. One item is that they must have the correct .cshrc file in their home directory. The other item is that their User ID must exist in the /etc/operate\_rpg.conf file. These requirement are met by steps 14 through 17 below. However, when step 17 is performed, the .cshrc file in all user accounts will automatically be updated. If any old users have customized their .cshrc file in their accounts. they should be warned to back up their file to a temporary file name prior to performing step 17. This will allow them restore their original .cshrc file later should they chose to do so.**

|    |  |  |
|----|--|--|
| 14 | Steps 14 through 17 are required at an RPG or MSCF processor. At a normal terminal window # prompt, enter:<br><b>cd /export/home&lt;CR&gt;</b> | Changes to the home directory location of all users, including the applications software user account.   |
| 15 | At the # prompt, enter:<br><b>ls -l&lt;CR&gt;</b><br>(The -l is the letter "el", not the number "one")   | Note the present version account name for the RPG or MSCF applications software (e.g., v1.157" or v1.5").  |
| 16 | At the # prompt, enter:<br><b>cd version_acct&lt;CR&gt;</b>  | version_acct is the present version account name for the RPG or MSCF applications software (e.g., v1.157" or v1.5") as observed in the previous step.  |
| 17 | At the # prompt, enter:<br><b>./update_users&lt;CR&gt;</b>   | This program will automatically update all user's .cshrc file as required to run the applications software and also ensure any new user IDs are added to the /etc/operate_rpg.conf file. This procedure is complete. Resume normal operations. |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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## Attachment H: Testing

### H.1 RPGPCA (UD70/170) Checkout Tests

The ROC hotline, backed by RPG engineering staff, will be available to assist via telephone at 1-800-643-3363.

Reference Attachment Q troubleshooting procedures to resolve problems for which specific troubleshooting guidance is not provided.

These tests are designed to provide the initial checkout of the RPGPCA. These tests will verify hardware operability (including power control), verify all internal and external communications links are functional (if connected), and validate that correct site specific software has been loaded for all network-type components. Applications software functionality will be verified to some degree; however, the majority of the applications software verification should occur during system-level testing.

These tests will not specifically cover tests involving a Local MSCF, a Distant MSCF, or a Remote BDDS. Those checkout tests are specified in the attachment applicable to those units (Attachments N, O, and P respectively). After initial checkout of all functional areas, full system level tests will occur IAW subsequent section in this attachment.

#### H.1.1 Assumptions

1. All RPGPCA equipment is installed IAW applicable sections of Attachment F.
2. All external wideband and narrowband interconnections are in place.
3. All RPGPCA equipment is powered-on except the Sun processors (RPG, and Local BDDS if installed). The power-on of the Sun processors will be done as part of these tests so that boot sequences can be evaluated.
4. That all network components were configured and/or had software loaded for this specific site when built as a kit. This check is designed to prove that assumption.
5. That all Sun processors were shipped with no root passwords set. All other components with passwords should have default passwords as follows:
  - APC devices - "apc"
  - Cisco Devices - "cisco"
  - Baytech Devices - "baytech"
  - Raritan - No password set.
6. That all pre-inspection verifications and tests were performed IAW Attachment D.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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7. The BDDS client(s) systems are installed and functional (if previous RIDDs clients were connected to a RIDDs system). The connection of client cabling to the RPG I/O panel and client IP address assignment(s) are complete. Per Attachment Y, the installation of the BDDS ingest system, cabling, and connection to the RPG cabinet (or RBDDS LAN switch as appropriate) is the responsibility of the site system administrator in coordination with the BDDS client.

### NOTE

**It is not assumed at this point that the MSCF (Local or Distant) or a Remote BDDS (if applicable to this system) would be fully installed with all interconnections in-place. If these units are not installed and interconnected, these procedures will provide for possible deviations in results when verifying external interface functionality.**

#### H.1.2 Basic LAN Connectivity

**STEP 1. Observe link indicators on the A13 LAN Switch. Verify that the following link indicators are lit green (solid or flashing):**

|            |  |
|------------|--|
| <b>NWS</b> | <b>2 - MSCF Printer UD79A1 (Only if Attachment N completed)</b><br><b>3 - Router A2</b><br><b>6 - Gateway A12</b><br><b>8 - UPS A11</b><br><b>9 - Power Administrator A10</b><br><b>13 through 16 - BDDS Clients (only if external clients connected to I/O panel CP2 through CP5 respectively)</b><br><b>17 - Comm Server A (A15)</b><br><b>18 - Comm Server B (A16)</b><br><b>19 - Comm Server C (A17)</b> |
| <b>DoD</b> | <b>3 - Router A2</b><br><b>6 - Gateway A12</b><br><b>8 - UPS A11</b><br><b>9 - Power Administrator A10</b><br><b>17 - Comm Server A (A15)</b><br><b>18 - Comm Server B (A16)</b><br><b>19 - Comm Server C (A17)</b>  |
| <b>FAA</b> | <b>3 - Router A2</b><br><b>6 - Gateway A12</b><br><b>7 - Interprocessor link (only when both channels are installed)</b>   |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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- 8 - UPS A11**
- 9 - Power Administrator A10**
- 10 - RMS Power Administrator A (A10)**
- 11 - RMS Power Administrator B (A11)**
- 17 - Comm Server A (A15)**
- 18 - Comm Server B (A16)**
- 19 - Comm Server C (A17)**

**STEP 2. If the link indicators are not green, troubleshoot in the following order (except BDDS clients – NWS only):**

- a. Ensure applicable component has power.**
- b. Reseat both ends of the blue LAN cable.**
- c. Temporarily replace LAN cable with a spare. If this corrects the problem, replace the defective cable in the wiring harness.**
- d. At LAN Switch, temporarily connect “suspect” component’s cable to either LAN Switch port 24 or any port which did show a green link light. If green link light is noted on this port but still will not light on its intended port, LAN Switch must be reconfigured IAW paragraph 6-6.10 of EHB 6-525.**
- e. Replace defective component if all else fails.**

**STEP 3. For missing link indicators (#13 thru 16) for a BDDS client that is connected (NWS only), try connecting external client connection to a different client port at the I/O panel (CP2 through CP5). If a link indication connection can be achieved on some ports but not all ports, troubleshoot defective LAN cables (W213 through W216) or defective LAN Switch (ports 13 through 16) per steps c. and d. above. If the client connection can not be achieved on any client ports, contact local site technicians and ask them to assist in troubleshooting the link to its source (office processor/hub or commercial T1 link to an off-site location).**

### H.1.3 RPG Processor Boot Analysis

**STEP 1. If at an NWS, activate the Raritan on-screen display by hitting the keyboard Scroll Lock key twice quickly. Log in as “raritan” (no password and then select the RPG processor (Channel 1).**

**STEP 2. Insert a formatted Jaz Disk cartridge into the A8 Jaz drive (reference section 13.10).**

### NOTE

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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The next steps will involve powering on the processor and monitoring the boot sequence for possible errors. Before performing these steps, locate EHB 6-525, Section 6-3, Figure 6-2 Fault Note 24 and study the “ERROR NOTES” which are listed just prior to the example of a good boot. This will help pinpoint the specific portions of the boot sequence that should be checked for possible errors.

**STEP 3.** Power on the RPG processor with rocker switch at rear of unit. Observe that LAN switch port 1 link indicator turns green. If not, troubleshoot IAW paragraph H.1.2, step 2 above.

**STEP 4.** Observe the boot sequence on the monitor. Compare boot sequence to the example provided in EHB 6-525, Section 6-3, Figure 6-2 Fault Note 24. If any boot-type problems are noted, troubleshoot using EHB 6-525 flowcharts (enter “Z” on Figure 6-2, sheet 7). If necessary, reboot processor per Fault Note 24 to evaluate corrective actions.

#### NOTE

If errors are noted on the Jaz disk, delay any further troubleshooting on this problem until the MSCF is installed for NWS sites (Attachment N) or Section H is completed for DOD or FAA sites. This will allow for proper disk formatting if necessary.

#### NOTE

If this is an NWS RPG, ignore any messages concerning “keyboard layout” or “keyboard table ff”. These messages will clear after the Local BDDS processor is booted and the Raritan KVM switch is cycled between the processors.

**STEP 5.** Locate the “Revision” (1.x) number and date annotated on the provided Open RPG Access Information List (at bottom of table) for the pre-loaded software. Compare this to the current INCO team/site software load CDs (Version [Rev] and Date). Pay particular attention to the dates. Even if the revision numbers match (e.g., “v1.113”), if the dates do not match the system must be reloaded. If newer software has been provided to the INCO team/site, then fully reload software now IAW EHB 6-525, Table 4-51.

#### H.1.4 Local BDDS Processor Boot Analysis (NWS Only)

**STEP 1.** Activate the Raritan on-screen display by hitting the keyboard Scroll Lock key twice quickly. Log in as “raritan” (no password and then select the Local BDDS processor (Channel 2).

#### NOTE

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**NOTE**

**The next steps will involve powering on the processor and monitoring the boot sequence for possible errors. Before performing these steps, locate EHB 6-525, Section 6-3, Figure 6-2 Fault Note 26 and study the “ERROR NOTES” which are listed just prior to the example of a good boot. This will help pinpoint the specific portions of the boot sequence that should be checked for possible errors.**

**STEP 2. Power on the Local BDDS processor and observe its boot sequence. Observe that LAN switch ports 4 and 12 link indicators turn green. If not, troubleshoot IAW paragraph H.1.2, step 2 above.**

**STEP 3. Observe the boot sequence on the monitor. Compare boot sequence to the example provided in EHB 6-525, Section 6-3, Figure 6-2 Fault Note 26. If any boot-type problems are noted, troubleshoot using EHB 6-525 flowcharts (enter Z on Figure 6-2, sheet 8). If necessary, reboot processor per Fault Note 26 to evaluate corrective actions.**

**STEP 4. Locate the “Revision” (1.x) number and date annotated on the provided Open RPG Access Information List (at bottom of table) for the pre-loaded software . Compare this to the current INCO team/site software load CDs (Version [Rev] and Date). Pay particular attention to the dates. Even if the revision numbers match (e.g., “v1.113”), if the dates do not match the system must be reloaded. If newer software has been provided to the INCO team/site, then fully reload software now IAW EHB 6-525, Table 4-52 (do not set a root password for this processor at this time).**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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### H.1.5 RPG Processor Setup

- STEP 1.** Hit the Scroll Lock key twice quickly and select the RPG (Channel 1) from the on-screen menu.
- STEP 2.** If not already set as part of a full system software load (H.1.4, Step 4 above), set a temporary root password IAW steps 22 through 29 (skip step 25) of EHB 6-525, Table 4-51. This root password will be used for the remainder of the INCO period and should be controlled on a “need to know” basis by the INCO Team Chief. The site system administrator should be provided this password and advised to reset the password after INCO/Acceptance.
- STEP 3.** Log into the CDE as root and add a temporary normal user called “inco” with a password of “test” (Attachment G, Table G.4-1). INCO personnel can use this account for all checkout and acceptance tests. The site system administrator should be advised to delete this account after INCO/Acceptance. If it is known that site personnel will be assisting with acceptance testing, the site system administrator can setup those user accounts at this time if desired.
- STEP 4.** If a full system software load was not performed (H.1.3 STEP 5 above), then check/set system time IAW EHB6-525, Table 4-76.
- STEP 5.** Exit out of the CDE and then log back in as “inco”. Ensure that window prompt reflects correct site name. For example, at the Oklahoma City site, the prompt should contain “rpg1-kdx”. If site name is incorrect, the processor must be fully reloaded IAW Table 4-52 of EHB 6-525.
- STEP 6.** Install RPG adaptation data if not just previously done as part of a full load on-site. (Attachment G, Table G.2-1). Ensure RPG applications software is stopped (stop<CR>) and restarted (start<CR>) after installing the adaptation data.

### H.1.6 Network Connectivity Validation

- STEP 1.** From a terminal window, ping all network devices in the following list by entering ping “DEVICE NAME”<CR>, where “DEVICE NAME ” is the one of the names listed below. Ensure each device responds with “DEVICE NAME is alive”.

#### NWS DEVICE NAMES

**mscf** (Only if Attachment N completed)

**printer** (Only if Attachment N completed and printer is installed at MSCF)

**rtr**

**bdds**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
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**rdagate**  
**ups**  
**pwradm**  
**mpsa**  
**mpsb**  
**mpsc**

**DOD DEVICE NAMEs**

**mscf (Only if Attachment O completed)**  
**rtr**  
**bdds (Only if Remote BDDS installed and attachment P completed)**  
**rdagate**  
**ups**  
**pwradm**  
**mpsa**  
**mpsb**  
**mpsc**

**FAA Channel 1 DEVICE NAMEs**

**mscf (Only if Attachment O completed)**  
**bdds (Only if Remote BDDS installed and attachment P completed)**  
**rtr1**  
**rdagate1**  
**ups1**  
**pwradm1**  
**rmspwradm1a**  
**rmspwradm1b**  
**mps1a**  
**mps1b**  
**mps1c**

**FAA Channel 2 DEVICE NAMEs**

**mscf (Only if Attachment O completed)**  
**bdds (Only if Remote BDDS installed and attachment P completed)**  
**rtr2**  
**rdagate2**  
**ups2**  
**pwradm2**  
**rmspwradm2a**  
**rmspwradm2b**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

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**mps2a**  
**mps2b**  
**mps2c**

**STEP 2. If an RPGPCA device does not respond, perform applicable device setup procedure IAW EHB 6-525, Section 6-6 procedures. If a remote unit (MSCF or Remote BDDS) does not respond when it should (is connected and all of its installation requirements completed), troubleshoot external interconnections:**

**Local MSCF - Internal RPGPCA cable W200; external cable W331**

**Printer at Local MSCF (NWS Only) - Internal RPGPCA cable W202; external cable W332**

**Distant MSCF or Remote BDDS - Delay further troubleshooting pending subsequent Router and modem checks.**

#### **NOTE**

**In this step and in many subsequent sections, some cable interconnection information is provided. When asked to troubleshoot these interconnections or to “check connectivity”, the first step should be just to check for tight connections and possibly disconnect and reconnect the cable. In many cases, this could correct the problem. This is especially true of any RJ-45 type connections and any Centronics Telco-type connections.**

**STEP 3. At a terminal window, enter telnet rtr 2129<CR> (or telnet rtr2 2129<CR> if testing FAA Channel 2). At the “Password:” prompt, enter cisco<CR>, another <CR>, and a “User Name:” prompt should appear. This validates the out-of-bandwidth power control path is functional. Press the Ctrl and ] keys simultaneously and then enter quit<CR> at the “telnet>” prompt to cancel the telnet session. If this check does not work correctly, check cable 70/170W254 and adapter between the 70/170A2 router AUX port and the 70/170A10 MasterSwitch Power Controller.**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## H.1.7 Applications-Level Checks

With the exception of verification of the narrowband circuit connections (H.1.7 below), the checks within this section should finalize the initial checkout of the RPGPCA. If checks reveal a possible component configuration problem, specific guidance will be provided to reconfigure the component. For all other problems, refer to Attachment Q.

### H.1.7.1 MSCF Display and Power Control Checks

- STEP 1.** At an RPG terminal window, enter `mscf` &lt;CR>. This starts the Master System Control Functions display (called MSCF Display). If this is FAA Redundant Channel 2, Select Channel 2 (radial button) before proceeding. Note the link indicators at the bottom. All should be green with the following possible exceptions:
- a. The MSCF link indicator could be red if the Local MSCF (NWS) or Distant MSCF (DOD/FAA) is not completely installed and connected (Attachments N and O respectively).
  - b. If a Remote BDDS is to be connected off of this system (a few DOD/FAA), the BDDS link indicator will be red if the Remote BDDS is not completely installed and connected (Attachment P)
  - c. If this is an FAA Redundant System, all link indicators would not be green until both channels are fully installed and interconnected.
- STEP 2.** On the MSCF Display, click the Power Control button. When the power control window opens, note that the following names are shown in the following order from right to left:
- RPG**  
**LAN**  
**Router**  
**Comm Server A**  
**RDA/RPG Gateway**  
**BDDS**  
**Comm Server B**  
**Comm Server C**
- “BDDS” will only be indicated for NWS systems. For DOD or FAA, that name field will either be blank or indicate “Outlet 6” (not**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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**important since it is not used). If the names are not correct, refer to EHB 6-525, paragraph 6-6.8 to change the names.**

### NOTE

**Names shown in this step and in subsequent steps are listed and verified just to ensure that a component was initially configured for a correct agency-specific configuration (NWS, DOD, or FAA). Slight deviations in names (e.g., capitalization) is acceptable as long as the correct quantity of names (and port locations) are correct.**

**STEP 3. Click on the RDA/RPG Gateway outlet (highlights). Click Turn off and then Yes when prompted. Note that the A12 gateway front panel LEDs go out. Click on the RDA/RPG Gateway outlet again (highlights). Click Turn on and then Yes when prompted. Note that the A12 gateway front panel LEDs turn on.**

**During these actions, note if applicable trap log messages are observed in the MSCF Display “Hardware Status/Warnings” area.**

**STEP 4. Click on the Comm Server A outlet (highlights). Click Reboot and then Yes when prompted. Note that the A15 Communications Server (top unit of three) front panel LEDs turn off for five seconds and then turn back on. During these actions, note if applicable trap log messages are observed in the MSCF Display “Hardware Status/Warnings” area. Click Close on the Power Control window to close it. If problems are noted, check AC power cabling IAW EHB 6-525, Figure foldouts 7-10 (NWS/DOD) or 7-11 (FAA).**

**STEP 5. On the MSCF Display, click on Comms Status. Note the following device names for the Cisco Switch:**

| <u>Device Name</u> | <u>Port</u>      |
|--------------------|------------------|
| NWS RPG            | FastEthernet0/1  |
| Printer            | FastEthernet0/2  |
| Router             | FastEthernet0/3  |
| To BDDS            | FastEthernet0/4  |
| RDA/RPG Gateway    | FastEthernet0/6  |
| UPS                | FastEthernet0/8  |
| Masterswitch       | FastEthernet0/9  |
| From BDDS          | FastEthernet0/12 |
| BDDS Client 1      | FastEthernet0/13 |
| BDDS Client 2      | FastEthernet0/14 |
| BDDS Client 3      | FastEthernet0/15 |
| BDDS Client 4      | FastEthernet0/16 |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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|               |                  |
|---------------|------------------|
| Comm Server A | FastEthernet0/17 |
| Comm Server B | FastEthernet0/18 |
| Comm Server C | FastEthernet0/19 |
| Test_Port     | FastEthernet0/24 |

|                 |                  |
|-----------------|------------------|
| DOD RPG         | FastEthernet0/1  |
| Router          | FastEthernet0/3  |
| RDA/RPG Gateway | FastEthernet0/6  |
| UPS             | FastEthernet0/8  |
| Masterswitch    | FastEthernet0/9  |
| Comm Server A   | FastEthernet0/17 |
| Comm Server B   | FastEthernet0/18 |
| Comm Server C   | FastEthernet0/19 |
| Test_Port       | FastEthernet0/24 |

|                     |                  |
|---------------------|------------------|
| FAA RPG             | FastEthernet0/1  |
| Router              | FastEthernet0/3  |
| RDA/RPG Gateway     | FastEthernet0/6  |
| Interprocessor Link | FastEthernet0/7  |
| UPS                 | FastEthernet0/8  |
| Masterswitch        | FastEthernet0/9  |
| Baytech A           | FastEthernet0/10 |
| Baytech B           | FastEthernet0/11 |
| Comm Server A       | FastEthernet0/17 |
| Comm Server B       | FastEthernet0/18 |
| Comm Server C       | FastEthernet0/19 |
| Test_Port           | FastEthernet0/24 |

**NOTE**

When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.

If names are incorrect, refer to EHB 6-525, paragraph 6-6.10 to perform the setup procedure.

**STEP 6.** Click on the down-arrow for the “device” pull-down menu on the Comms Status window, then click on Cisco Router. Note the following device names for the Cisco Router:

| <u>Device Name</u> | <u>Port</u> |
|--------------------|-------------|
|--------------------|-------------|

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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|            |                      |                        |
|------------|----------------------|------------------------|
| <b>NWS</b> | <b>lan_switch</b>    | <b>FastEthernet0/0</b> |
|            | <b>local_mscf</b>    | <b>FastEthernet0/1</b> |
|            | <b>loopback_test</b> | <b>Serial2/0</b>       |
|            | <b>loopback-port</b> | <b>Serial2/7</b>       |
| <b>DOD</b> | <b>bdds_router</b>   | <b>Serial0/0</b>       |
|            | <b>lan_switch</b>    | <b>FastEthernet0/0</b> |
|            | <b>distant_mscf</b>  | <b>Serial2/0</b>       |
|            | <b>loopback-port</b> | <b>Serial2/7</b>       |
| <b>FAA</b> | <b>bdds_router</b>   | <b>Serial0/0</b>       |
|            | <b>lan_switch</b>    | <b>FastEthernet0/0</b> |
|            | <b>redundant_rtr</b> | <b>FastEthernet0/1</b> |
|            | <b>distant_mscf</b>  | <b>Serial2/0</b>       |
|            | <b>loopback-port</b> | <b>Serial2/7</b>       |

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**If names are incorrect, refer to EHB 6-525, paragraph 6-6.5 to perform the setup procedure.**

**STEP 7. Close the Comms Status window.**

#### H.1.1.7.2 RPG HCI, RPG Applications Software, and Wideband Checks

**STEP 1. On the MSCF Display, click on the RPG HCI button. Verify that an RPG HCI displays.**

**STEP 2. Note the Wideband Link indication between the RDA and RPG containers. Normal indications will either show three white links (RDA in Standby) or three green links (RDA in Operate). If the link indicates “Failure”, troubleshoot wideband link. Attempt rebooting RDA prior to further troubleshooting. Assistance may be required from site technicians to check/reboot the RDA end.**

**STEP 3. Verify that the RPG Container is green. If it is red, click on Status in the RPG container and troubleshoot Maintenance Required (MR) or Maintenance Mandatory (MM) alarm. If a Remote BDDS is to be connected to this system but it is not yet installed (Attachment P), a BDDS alarm will be active.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 4.** Click on the three wideband links between the RDA and RPG containers. On the RDA/RPG Interface Control/Status window, click on Disconnect and Yes when prompted. Verify the wideband link state changes to “Disconnected HCI”. Click on Connect and Yes when prompted. Verify the wideband link state changes to “Connected”. Close the RDA/RPG Interface Control/Status window.
- STEP 5.** Ensure the INCO team has permission to operate the RDA. If the RDA is in Standby (white links), place it into Operate as follows:
- a. Click on Control in the RDA container.
  - b. On the RDA Control/Status window, click on Operate and Yes when prompted.
  - c. If “Operate” can not be selected because the RDA is in Local Control, ask the site technicians for assistance in Enabling Remote Control (ENRC) at the RDA.
  - d. Close the RDA Control/Status window.

Leave RDA in Operate.

#### H.1.7.3 Archive III Check (NWS Only)

#### NOTE

Archive III disks can not be shared between sites. If this JAZ disk cartridge was not erased after use at a previous site, errors can occur. If previous Archive III data exists on the disk, perform steps 3.a through 3.f. below before proceeding.

- STEP 1.** On the RPG HCI, click on the Archive Products block below the RPG container.
- STEP 2.** On the Archive III Control/Status window, click on Products Record radial button and then click Yes when prompted. Note that the top Status indicator changes to Active. Note that the “Auto Products” indicator also indicates Active in the Archive III Status area.
- STEP 3.** On the Archive III Control/Status window, click on Status Record radial button and then click Yes when prompted. Note that the “Auto Status” indicator in the Archive III Status area indicates Active (at least temporarily. If the “Auto Archive” status indicator will not stay active and the following error message occurs “This Archive device has Archive messages from a different RPG,” then

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
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- a. Stop all auto archive functions.**
- b. At a Terminal window, type: stop<CR>**
- c. Type: cd /jaz<CR> then ls -l<CR>**  
(The -l is the letter “el”, not the number “one”)
- d. Type: rm -r rpg\_id\_file<CR>.**
- e. Type: cd<CR>.** The prompt should no longer indicate that it is at the “/jaz” directory
- f. Type: start<CR>**
- g. Repeat Steps 2 and 3.**

**Close the Archive III Control/Status window.**

#### H.1.7.4 Jaz Drive Check (DOD and FAA Only)

### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

Perform check IAW EHB 6-525, Section 6-3, Figure 6-2 Fault Note 3, steps 6 through 9. Step 6 indicates to be a # prompt; however, this will work on an RPG at a normal user prompt.

#### H.1.7.5 MLOS FAS Check (NWS MLOS Sites Only)

- STEP 1. On the RPG HCI, click on the MLOS box to the right of the tower. Note that the MLOS Status window displays.**
- STEP 2. On the MLOS Status window, verify that the Alarm Channel Status area of the window is green and that at least two Stations are shown (rows of blocks). If not, troubleshoot the serial link to the MLOS FAS (RPGPCA Internal - A19 (SHM), cables W257 and W86; External - cable W250).**

#### H.1.7.6 Miscellaneous Applications Window Checks

This paragraph will only discuss minimal checks of some of the more important maintenance-orientated applications windows. Other windows can be brought up and observed as desired.

- STEP 1. Click on the Status button in the RPG Container. Note that the RPG Status window opens and status messages are indicated in the System Log Messages area. Close the Status window.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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- STEP 2.** Click on the RDA Performance Data button to the right on the RPG HCI. On the RDA Performance Data menu, click on a couple of RDA sub-functional areas to verify if data is displayed. Close windows.
- STEP 3.** Click on Alarms in the RDA container and verify that the RDA Alarms window is displayed (actual RDA alarms may or may not be present at this time). Close the RDA Alarms window.
- STEP 4.** Verify the status of Archive II below RDA Container. If not already “Record”, then perform this step. Click on the Archive Base Data block below the RDA container. In the Archive II window, click Record, then click Activate in the Record Base Data window and Yes when prompted. Verify that the Current Archive II Status goes to “Check Label”, “Fast Forward”, “Loaded” (could take a minute or two), and then “Record” at the beginning of the next VCP. Leave Archive II in a Record state. If commands are accepted but the Archive II unit does not respond correctly, ask site technicians to check the RDA Archive II unit to make sure it is ready for recording. Close the Archive II window.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**H.1.7.7 Local BDDS Applications Software Check (NWS Only)**

- STEP 1. Hit the Scroll Lock key twice quickly and select the Local BDDS (Channel 2) from the on-screen menu.**
- STEP 2. Log into the BDDS CDE as root (should be no password set at this time.) Advise the System Administrator to set a root password after INCO/checkout is complete.**

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 3. In a terminal window, enter hostname<CR> and verify the correct hostname is displayed (indicates bdds-<site ICAO>). If name is not correct, BDDS software must be fully reloaded IAW EHB 6-525, Table 4-51.**
- STEP 4. In a terminal window, enter /bdds/wbstat<CR>. Verify that four processes are shown. An additional “wbserver” process would be shown for each connected client.**

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 5. If a full system software load was not just performed (H.1.4, step 4 above), then check/set system time IAW EHB 6-525, Table 4-76.**
- STEP 6. Exit out of the CDE.**
- STEP 7. Hit the Scroll Lock key twice quickly and select the RPG (Channel 1) from the on-screen menu.**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

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## H.1.8 Narrowband Checks

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**STEP 1. For all eight dial modems in the A14 modem rack (slots 1 through 4), verify that each modem has a TR light. Simultaneously press the Return and Enter keys on each dial modem card to switch between the A and B sides of the modem. If TR lights are not lit, reboot Comm Server A using the Power Control window from the MSCF Display. Wait two minutes. If TR lights are still not lit, click on the Control button in the RPG container and then click Restart All Tasks. If TR lights are still not lit, verify the setup of Comm Server A (A15) using EHB 6-525, paragraph 6-6.15.**

**STEP 2. Contact the ROC Hotline (800-643-3363) and ask them to test dial-in to the eight dial modem circuits. Continue H.1.8 checks pending call-back from the Hotline. If the Hotline indicates some dial modems do not answer, then troubleshoot as follows (with assistance from site technicians as necessary):**

- a. **Verify all patch panels are closed.**
- b. **Verify that circuit connections at the 1-RJ21X demarc block are correct as specified on the Post circuit report.**
- c. **Use a telephone butt set and verify if a good dial tone exists on that circuit on the demarc block.**
- d. **Use the telephone butt set or an office phone to dial-in to the “suspect” modem. Verify that a Ring (RI) indicator is seen and modem answers. If no ring indicator is seen, proceed to step f. below.**
- e. **Swap “suspect” modem card with another dial modem card (already tested by the Hotline) and then ask the Hotline to retest the previously failed dial line. If the new modem works, check setup on the old modem using EHB 6-525, paragraph 6-6.11 and/or replace the “suspect” modem. Have Hotline retest as necessary.**

**Only if no Ring indicator seen on “suspect” modem:**

- f. **Check all internal cable connections from:**
  - Modem rack to A24 adapter panel**
  - A24 adapter panel to A23 patch panel**
  - A23 patch panel to the I/O panel J2**
  - I/O panel J2 to the 1-RJ21X demarc block (external cable)**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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- g. Retest dial-in as necessary. If no Ring indicator is seen, perform further troubleshooting using Attachment Q, Section Q.2.2

**STEP 3. For all dedicated modems in slots 5-20, set the DCD option to NORMAL:**

- a. Press the <RETURN> key twice.
- b. Press the <DOWN> key until the display reads: **TERMINAL OPT'S**
- c. Press the <ACROSS> key, until the display reads: **DCD=HIGH.**
- d. Press the <DOWN> key until the display reads: **DCD: NORMAL.**
- e. Press the <ENTER> key, the display reads: **DCD=NORMAL.**
- f. Press the <RETURN> key twice.
- g. Press the <ACROSS> key until the display reads: **"Save Changes=3"**  
(or **"Save Changes=4"** for 33.6 SDC modem)
- h. Press the <ENTER> key to complete the save.
- i. Press the <RETURN> key twice.

**STEP 4. For all dedicated modems installed in slots 5 through 20 of the modem rack (not all may be used), verify that the TR lights are lit or cycling (NWS will never have a modem in slot 5). If the modem is not physically connected to a far end modem (no CD light), the TR light should be lit solid. The light will also be lit solid if there is both a physical and logical connection with a far end modem (both CD and RD lights lit). However, if the modem is physically connected to a far end modem but there is no logical connection (no RD light), the TR light will be cycling (approximate 30 to 45 second cycles). (Note: 33.6 modems can show an RD light even with no logical connection to the far end.) If TR lights are not lit or cycling, reboot Comm Server B (modem slots 5 through 12) or Comm Server C (modem slots 13 through 20) using the Power Control window from the MSCF Display. Wait two minutes. If TR lights are still not lit, click on the Control button in the RPG container and then click Restart All Tasks. If TR lights are still not lit, verify the setup of Comm Server B (A16) or Comm Server C (A17) using EHB 6-525, paragraph 6-6.15.**

**NOTE**

**In the next step, the circuit report referenced will list circuits based on a "2-RJ2DX" demarc block and a possible "4-RJ2DX" demarc block. For modems which may be installed in slots 5 through 16 of the A14 modem rack, these circuits would map to the 2-RJ2DX block and modems in slots 17 through 20 would always map to the first four circuits on the 4-RJ2DX block. For DOD and FAA sites, the fifth circuit for the 4-RJ2DX block will always be the MSCF circuit (modem rack slot 21).**

**STEP 5. For all dedicated modems installed in slots 5 through 20 of the modem rack and are listed on the final site circuit report (i.e., remaining as active dedicated circuits after RPG installation), verify that each modem shows a physical connection to a far end modem. For a modem in slot 5, it would usually indicate "V34 33.6". For**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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the remaining modems (and possibly slot 5), they should indicate "Data 14.4". (Review the Pre-Test circuit verifications to determine if a circuit that should have been connected at that point was not connected. If that is the case, just NOTE that this a circuit previously identified to be defective). For all other modems that should have a physical connection, but do not, troubleshoot as follows:

### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- a. Verify that all patch panel switches are closed.
- b. Check that circuit connections at the 2-RJ2DX and 4-RJ2DX demarc blocks are correct as specified from Attachment U.
- c. Check all internal cable connections from:
  - Modem rack backplane to A25 adapter panel
  - A25 adapter panel to the A27 or A26 patch panels
  - A27 or A26 patch panels to the I/O panel (J1 and J3 respectively)
  - I/O Panel J1 and J3 to demarc blocks 2-RJ2DX, and 4-RJ2DX (if used)
- d. In the legacy cabinet, check the part number on the UD22/122W19 and UD22/122W21 cables between the dedicated patch and adapter panels (the UD22/122W21 is optional at many sites). If the site had an 1214789-303 cable with a revision prior to " L " in use with the Legacy RPG, the punch down order of the lines at the demarc for the ORPG needs to change to have the dedicated lines connect. To resolve, simply reverse the transmit and receive pairs at the dedicated NEXRAD RPG demarc panel. Re-punch the wires for each 4-wire circuit by moving 1 to 3, 2 to 4, 3 to 1, and 4 to 2.
- e. Ask site technicians to call the far end user to verify if the far-end equipment is up and operational.
- f. Check modem setup using EHB 6-525 Section 6-6 procedures.
- g. Insure modem has correct transmit level as previously documented from paragraph D.3.2, Step 5.
- h. Perform troubleshooting using procedures in Attachment Q, Section Q.2.1.
- i. Ask site technicians to contact far end user and request that the commercial dedicated circuit be checked.

**STEP 6. (DOD and FAA Only).** For the MSCF modem in slot 21 of the modem rack, verify that the TR light is lit or cycling. If not, verify connection to the A2 Router serial module (and possible defective router).

**STEP 7. (DOD and FAA Only).** If Attachment O has been completed, verify the MSCF modem indicates "V34 33.6". If not, troubleshoot as specified in step 4 above. In

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this case, the far end “user” in step 4.d. above is the Distant MSCF and commercial circuit would be under control of the site technicians where the Distant MSCF is located.

**STEP 8.** On the RPG HCI, click Comms in the USERS container to bring up the Product Distribution Comms Status window. Verify that all dedicated modem links previous verified to be physically connected in step 3 above are showing a logical Connect status. If not, check modem for the presence of an RD light. If it is not present but modem is physically connected, the far end equipment must be in a logical shut down state (or “crashed”).

For NWS sites, link 9 should always be connected to an AWIPS (or possibly an RPGOP) using a 56K link. For any link that will not connect to an AWIPS (e.g. Link 9), it is always best to reboot both AWIPS Simpacts first. Ask the site ESA/technician to do this. Wait about two minutes. If the link still does not show a Connect status on the Product Distribution Comms Status window, then select the line on the window and issue a Disconnect command followed by a Connect command. If the link still does not show a Connect Status, verify connections on RPGPCA converter A20, internal cable W8, and external cable W328. Check the RPGPCA converter A20 strapping (EHB 6-525, Figure 6-11). Double-click on Link 9 and verify the Comms Option matches what was documented in D.3.2, Step 2. If not, notify the Hotline immediately (1-800-643-3363) and the Hotline will assist in correcting the adaptation problem. If this scenario exists, Link 9 will either be cycling, or not passing data even when showing a “CONNECT” status. If Link 9 is still not functional and no RPG problems are found, ask site technicians to verify operability of AWIPS or RPGOP circuits.

**STEP 9.** Notify Hotline (1-800-643-3363) if a user connects without a name in Step 8. Also notify the Hotline if the User ID is showing a Ø (zero). Verify the names are in the correct order as shown on the Post circuit report. If not, verify correct punchdown sequence on the demarc block.

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### H.1.9 RDA RRRAT Console Test (DOD Only)

For DOD sites, the RDA's RRRAT can be used to establish a console-type connection to the RPG using a HyperTerminal session. This section tests that capability.

- STEP 1.** On the RDA RRRAT's Desktop, click Start ► Programs ► Accessories ► HyperTerminal.
- STEP 2.** In the HyperTerminal window, double-click on the "Hypertrm.exe" icon. **NOTE:** Icon may or may not show the .exe extension.
- STEP 3.** In the Connection Description window "Name:" block, type RPG<CR>.
- STEP 4.** In the Phone Number window, select the "Connect using:" down-arrow and then select Direct to Com 1. Click OK.
- STEP 5.** In the Com 1 Properties window, select the "Bits per second:" down-arrow and then select 38400. Click OK
- STEP 6.** At the top of the RPG - HyperTerminal window, click File ► Save.
- STEP 7.** Click back in the window and enter a <CR>. The RPG's security message and login prompt should appear. Login as normal user "inco". Normal user command line actions can now occur. This verifies the functionality of the link.
- STEP 8.** After logged in, enter exit<CR> twice to log back out.
- STEP 9.** Close the RPG - HyperTerminal window (answer Yes to disconnect prompt).
- STEP 10.** In the main HyperTerminal window, right-click on the "RPG.ht" icon and then select Copy. Close the main HyperTerminal window.
- STEP 11.** Right-click somewhere in the RDA's RRRAT desktop and then select Paste. This will paste the RPG HyperTerminal session icon to the desktop. **NOTE:** It may be necessary to temporarily minimize either the Applications or System Console window to observe a portion of the RRRAT desktop. Inform site technicians that if they access their RDA RRRAT remotely via dial-in, the RPG.ht icon can be selected to establish a console connection to the RPG.

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### H.1.10 Router Reconfiguration

If it was required to load Build 1.2 software on the RPG (will probably also show the version as “v1.2” on the CDs), then the 70/170A2 Cisco Router must be reconfigured using instructions provided with the Build 1.2 software (Software Note 18). Build 1.2 loads during INCO will commence the week of 25 March 2002 and will be required for approximately 3 to 5 weeks (at some point, systems will come pre-loaded with Build 1.2). A router reconfiguration is required to activate Build 1.2 functionality within the system.

To perform the router reconfiguration, certain support items must be retrieved from the Technician Kit. Look at the Tools Required list at the beginning of Software Note 18 Attachment 2, and retrieve the necessary items from the Technician Kit depending on if the reconfiguration will be done from a laptop or the J8 port on the I/O panel of the RPGPCA. The “Open RPG Access Information List” can be used in lieu of the “Copy of the Local processor Hosts file”. Since a laptop will probably not be available, the RPGPCA J8 port will probably be used. Then begin the actual reconfiguration procedure beginning with the NOTE just prior to Step 33 of Attachment 2, and complete all remaining steps of Attachment 2. The only variance would be that Step 34 is only used if a laptop is used for the initial connectivity; whereas, Step 35 is used when the RPGPCA I/O panel port J8 is used for the initial connectivity.

### CAUTION

The router reconfiguration procedure must be followed precisely as written and exactly in the order listed. Carefully enter each command and verify that each command is accepted (no command rejection feedback received). Failure to complete every step of the procedure correctly from beginning-to-end will result in incorrect router operation, and at best, the procedure must be re-accomplished from the beginning. Certain mistakes could even impede the ability to start the procedure over and failure to complete the requirements of Steps 42 through 47 will result in a totally defective router.

### H.1.11 Overnight Burn-In Test

Post the following note on the RPGPCA monitor:

Wiggle mouse to activate mouse.

Raritan Log-In screen has no password (hit Enter).

Hit Enter to select RPG.

Sun unlock password is “test”.

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## H.2 Ensure Distant Users Are Online

With site cooperation, coordinate with distant narrowband users to ensure they are receiving data from the RPG.

The ROC hotline (800-643-3363), backed by RPG engineering staff, will be available to assist via telephone.

Reference Attachment Q trouble shooting procedures to resolve problems for which specific troubleshooting guidance is not provided.

## H.3 Retrieve Jaz disks

At this time, the INCO teams test Jaz disks are installed in the Jaz drives. These must be retrieved, stored, and packed for subsequent site use. Perform the following with the site personnel to retrieve INCO team disks and get one of their disks ready for the Ops Assessment Test:

**STEP 1.** At the MSCF Jaz drive, press the button on the front to eject the disk. Store the MSCF Jaz disk in its container and pack for subsequent site use.

**STEP 2.** If site personnel do not already have a disk formatted for Archive III, then format one of their disks using the procedures in EHB 6-525, Table 4-72, steps 1 through 15.

**STEP 3.** DOC sites to change-out disk at RPGPCA Jaz drive. Follow the procedures in Table 4-72, steps 16 through 21 to retrieve the INCO team disk and install the site disk.

DOD and DOT sites to retrieve disk at RPGPCA Jaz drive. Follow the procedures in Table 4-74, steps 1 through 4. Store the RPG Jaz disk in its container and pack for subsequent site use.

**STEP 4.** DOC sites only. Take the RPG Jaz disk that was retrieved from the RPG and take it to the MSCF Jaz drive. Follow the procedures in EHB 6-525, Table 4-72, Steps 1 through 15 (do NOT re-label disk in step 14). This cleans all extraneous files on the disk by reallocating a new file system on the disk. Store the RPG Jaz disk in its container and pack for subsequent site use.

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## H.4 Notify Users

**STEP 1.** When the ORPG is brought up and communications are reestablished , a free text message should be sent to users to notify them that the ORPG has been installed and that any anomalies in their comms or products should be reported to the office containing the ORPG or the Hotline (800-643-3363). The Hotline should also be notified at this time that the ORPG is up.

## H.5 Setup MSCF for Assessment Test

Inform site personnel that the only user account is called “inco” and the password is “test”. On the MSCF Monitor, post a note that “test” can be used to unlock the screen.

## H.6 RPG Site Staff Complete RPG Installation Assessment Test

The ROC hotline (800-643-3363), backed by RPG engineering staff, will be available to assist via telephone.

Reference Attachment Q trouble shooting procedures to resolve problems for which specific troubleshooting guidance is not provided.

The purpose of this test is to assess the stability of the WSR-88D operating with RPG hardware and software. It is expected that the test will be run by an onsite person augmenting normal shift personnel. The test should be run a minimum of 4 hours. System functionalities assessed during this test include the following:

- a. Use of all operational VCPs.
- b. Generation of products and transmission to narrowband users.
- c. Narrowband communications stability with AWIPs, PUPs, and external users.
- d. Recording Archive II and III data.

If the Hotline was not able to verify and correct all dial-in user discrepancies as part of the N.6.6, Step 2 check, the site operators should be informed of those discrepancies at this time. These will need to be documented as a site discrepancy on the acceptance documentation and corrected after-the-fact.

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### H.6.1 Assumptions

- a. All RPGPCA equipment is installed IAW applicable sections of Attachment F.
- b. Attachments N through P and H.1 have been completed (as applicable) and all test requirements specified in those sections have been completed successfully.
- c. All RPGPCA equipment is powered-on, the MSCF is functioning, and all external wideband and narrowband interconnections are in place.
- d. The local site will provide a person to complete the RPG Installation Assessment Test Component (Attachment X), which takes 4 hours to complete.

### H.6.2 Assessment Test Procedures

Assessment Test Procedures are in Attachment X: RPG Installation Assessment Test Component document.

## H.7 Return after the OPS Assessment to ensure the RPG is operational and stable

The ROC hotline (800-643-3363), backed by RPG engineering staff, will be available to assist via telephone.

Reference Attachment Q trouble shooting procedures to resolve problems for which specific troubleshooting guidance is not provided.

If problems have occurred overnight, correct the problems and remain available until the RPG successfully operates for a minimum six hour period.

## H.8 Password/Account Management

**STEP 1. Delete the temporary INCO user accounts at both the RPG and MSCF. Exit out of the CDE as a normal user and log back in to the CDE as root with the root password. Then enter admintool<CR> at the # prompt. Select the user “inco”, select “Edit>Delete” from the top menu, then in the Delete window select “Delete Home Directory”, and click Delete. If there is an “nrctest” user, delete that account also in the same manner. Double-click in the upper left corner to close Admintool. Inform the site system administrator that they will need to add user accounts for site personnel using the procedures in EHB 6-525, Table 4-82. User accounts must be added in this manner at both the RPG (technicians) and MSCF (all site users) to be able to access and run the RPG and MSCF applications software.**

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**STEP 2. Inform the site system administrator of the temporary root passwords set for the RPG and MSCF and ask them to change them ASAP. Also, inform them of the BDDS root password if it was set, or that it has no root password at this time if software was not reloaded.**

## **H.9 Procedures to Re-label MSCF External Cables/Table**

Install new table designator labels IAW MSCF Workstation drawing 2300023.

If the site has a legacy W902 cable already installed then it must be re-labeled for use with the Local MSCF. Refer to Section F.1.4.2, paragraph 4 for general guidance in removing the old labels and installing the new labels.

## **H.10 Relocate/Reconfigure Original UCP RRRAT (NWS Only)**

### **NOTE**

**This section is only necessary if the site ESA wants to use the original UCP RRRAT for dial capability to the RDA RRRAT. Discuss this with the site ESA. If the site ESA does not want the UCP RRRAT relocated for this purpose, this section can be skipped.**

### **H.10.1 Relocate RRRAT Equipment**

- STEP 1. Coordinate with site personnel and relocate the original UCP RRRAT to their preferred location. Preferably, this will be within 100 feet of the MSCF location. Two AC power outlets must be available at this location.**
- STEP 2. Set the monitor on top of the RRRAT processor and reconnect processor/monitor power cables. Reconnect keyboard, mouse, and monitor video cables at the back of the processor.**
- STEP 3. Plug processor and monitor AC power cables into AC outlets and power the processor back on with the button at the front of the processor. The processor should boot up to Windows 95/98.**

### **H.10.2 Reconfigure RRRAT**

**With assistance of site technicians, perform the following at the relocated RRRAT:**

**STEP 1. Right click on the minimized PCAnywhere button on the task bar and select Close.**

**STEP 2. From the Windows 95 Start Menu, select Programs \* PCAnywhere32 \***

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PCAnywhere.

**STEP 3. In the PCAnywhere window, click on Be A Host PC.**

**STEP 4. Click on the Modem icon, then select File \* Properties.**

**STEP 5. In the MODEM Properties menu, select Settings. May need to enter site-specific-password (default = REMOTE).**

**STEP 6. In the Host Startup field, uncheck Launch with Windows and then click OK. If prompted for a password, site technicians must enter the site-specific RRRAT password. Changes take affect when password is entered.**

**STEP 7. Close PCAnywhere.**

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**Attachment I: Arrange for Storage and Shipment of Legacy RPG cabinets****I.1 Audit Legacy RPG Contents**

The INCO team will audit the contents of the Legacy RPG cabinet prior to its removal, storage, and shipment to the NRC. This will be completed as part of Attachment J.

**I.2 Arrange for Storage of Legacy RPG**

Storage issues will be addressed as a result of the site survey.

The INCO team with the help of the local site personnel, will place the RPG cabinet into temporary storage. Arrange, in coordination with the local site, for the storage of Legacy RPG cabinets while awaiting shipment to the NLSC

**I.3 Arrange for shipment of Legacy RPG**

The INCO team will report to the ROC Hotline (1-800-643-3363) when all the legacy RPG equipment is ready for transport. When the Hotline is contacted, the INCO team will need to provide a cabinet serial number, and a local site POC name and telephone number for cabinet pick-up questions/arrangements. Also specify if this is a 2-bay or 2-bay with extra separate 3<sup>rd</sup> bay.

The ROC will provide this information to NLSC. NLSC will make the arrangements for the pickup, padding, packing, shipment and tracking of the legacy RPG cabinet back to NRC. NLSC will inform local site personnel and NRC of the projected shipping and arrival dates.

The transport company is responsible for padding and wrapping the legacy RPG equipment to be shipped as part of their contract.

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## Attachment J: Get Legacy RPG Cabinets Ready for Shipment

All items that are removed from the Legacy RPG and re-installed in the RPG must be accounted for and serial numbers recorded in the SAD (Reference Attachment M, Section M.1).

The INCO team will audit the contents of the Legacy RPG cabinet prior to its removal, storage, and shipment to the NRC. A copy of Section 18.2 will serve as the checklist and a copy will be provided as a part of the materials shipped with the cabinet. Copies of the completed checklist will be retained at the site by the local authority and a copy forwarded to the ROC with other documentation.

### NOTE

**All general items attached to the cabinets, e.g. fans, rails, will be returned with the cabinet.**

The INCO team will remove from the Legacy RPG cabinet all parts not slated for reuse and shipment back to NRC. Attachment S will serve as guidance listing items that are removed from the Legacy RPG for disposal. All items which will be disposed of will be turn over to the local site property manager. The local site property manager will dispose of these items IAW their agency's current policy.

## J.1 DOC Cabinets

Reference Drawing 1219744

### J.1.1 Items to leave in Cabinet

|                                 |  |  |
|---------------------------------|--|--|
| Modem Rack                      | P/N 1219738-201<br>or P/N 1219738-207  | (A1) pg 6, zone D4                                   |
| Cable Entry Panel*              | P/N 1525341-101  | Pg 7, zone C6  |
| Power Filter                    | P/N 1213645-201  | (FL1) pg 7, zone C5                                  |
| RF Gasket (part of I/O panel)*  | P/N 1213847-202  |  |
| I/O Gasket (part of I/O panel)* | P/N 1213850-201  | Pg 7, zone C6  |
| AC Distribution Panel           | P/N 93-ACUF00M00   | (A7) pg 7, zone C4                                   |
| Power Strip                     | P/N 1217822-302  | (J23) pg 10, zone F8                                 |
| Converter (DOC only)            | P/N 1213823-202  | (A8) pg 7, zone D6<br>including power cord and cable |
| Adapter Panel                   | P/N 2200027-201  |  |
| Adapter Panel                   | P/N 1219734-201  | (A19) pg 7, zone E6                                  |
| Patch Panel                     | P/N 1213826-201  | (A8) pg 7, zone E6                                   |
| Patch Panel                     | P/N 1213826-201  | (A8) pg 7, zone E6                                   |
| Patch Panel                     | P/N 2200026-201  |  |
| Dial Modem                      | P/N 1219739-207 or 1219739-210<br>(only if extra modems after<br>standardized) |  |

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|             |   |
|-------------|---|
| CSU         | P/N 1222301-201<br>(with cables and power cord adapter) |
| Telco Cable | P/N 1214789-301   |
| Telco Cable | P/N 1214789-302   |
| Telco Cable | P/N 1214789-303 or 1214790-301                          |
| Telco Cable | P/N 1214789-308   |
| Telco Cable | P/N 1214790-302   |
| Telco Cable | P/N 1214790-304   |
| Telco Cable | P/N 1214789-307   |
| Telco Cable | P/N 1214789-304   |
| Telco Cable | P/N 1214789-305   |

\*Not being reused, but more efficient to leave in place in cabinet.

J.1.2 Remove all other items from cabinet for disposal

Reference Attachment S.

**J.2 DOD Cabinets****J.2.1 Items to leave in Cabinet (see J.1.1 for additional item location information)**

|                                 |  |
|---------------------------------|--|
| Modem Rack                      | P/N 1219738-201 or P/N 1219738-207                                       |
| I/O Panel*                      | P/N 1525341-101  |
| Power Filter                    | P/N 1213645-201  |
| RF Gasket (part of I/O panel)*  | P/N 1213847-202  |
| I/O Gasket (part of I/O panel)* | P/N 1213850-201  |
| AC Distribution Panel           | P/N 93-ACUF00M00   |
| Power Strip                     | P/N 1217822-302  |
| Adapter Panel                   | P/N 2200027-201  |
| Adapter Panel                   | P/N 1219734-201  |
| Patch Panel                     | P/N 1213826-201  |
| Patch Panel                     | P/N 1213826-201  |
| Patch Panel                     | P/N 2200026-201  |
| Dial Modem                      | P/N 1219739-207 or 1219739-210 (only if extra modems after standardized) |
| Telco Cable                     | P/N 1214789-301  |
| Telco Cable                     | P/N 1214789-302  |
| Telco Cable                     | P/N 1214789-303 or 1214790-301   |
| Telco Cable                     | P/N 1214789-308  |
| Telco Cable                     | P/N 1214790-302  |
| Telco Cable                     | P/N 1214790-304  |
| Telco Cable                     | P/N 1214789-307  |
| Telco Cable                     | P/N 1214789-304  |
| Telco Cable                     | P/N 1214789-305  |

\*Not being reused, but more efficient to leave in place in cabinet.

**J.2.2 Remove all other items from cabinet for disposal**

Reference Attachment S.

|      |           |         |     |
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**J.3 DOT Cabinets****J.3.1 Items to leave in Cabinet (see J.1.1 for additional item location information)**

|                                 |  |
|---------------------------------|--|
| Modem Rack                      | P/N 1219738-201 or P/N 1219738-207                                       |
| I/O Panel*                      | P/N 1525341-101  |
| Power Filter                    | P/N 1213645-201  |
| RF Gasket (part of I/O panel)*  | P/N 1213847-202  |
| I/O Gasket (part of I/O panel)* | P/N 1213850-201  |
| AC Distribution Panel           | P/N 93-ACUF00M00   |
| CSU                             | P/N 1222301-201  |
| Power Strip                     | P/N 1217822-302  |
| Adapter Panel                   | P/N 2200027-201  |
| Adapter Panel                   | P/N 1219734-201  |
| Patch Panel                     | P/N 1213826-201  |
| Patch Panel                     | P/N 1213826-201  |
| Patch Panel                     | P/N 2200026-201  |
| Dial Modem                      | P/N 1219739-207 or 1219739-210 (only if extra modems after standardized) |
| Telco Cable                     | P/N 1214789-301  |
| Telco Cable                     | P/N 1214789-302  |
| Telco Cable                     | P/N 1214789-303 or 1214790-301   |
| Telco Cable                     | P/N 1214789-307  |
| Telco Cable                     | P/N 1214789-304  |
| Telco Cable                     | P/N 1214789-305  |
| Telco Cable                     | P/N 1214789-308  |
| Telco Cable                     | P/N 1214790-302  |

\*Not being reused, but more efficient to leave in place in cabinet.

**J.3.2 Remove all other items from cabinet for disposal**

Reference Attachment S.

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## **J.4 Legacy Three Bay Cabinets**

This section provides instructions for separating the legacy three-bay cabinets before they are shipped back to the NLSC. Approximately thirty-five field sites have three-bay cabinets. RPG Installation staff will prepare the cabinets by dismantling them on-site into a single-unit/double-unit pattern. The cabinets will be returned to NRC as two units, consisting of the original right bay cabinet (UD22) and a double unit consisting of the original left and center bay cabinets (UD21). These cabinets will be referred to as the single unit and the double unit respectively.

Drawing 1219744, Sheet 8, Section P-P, T-T, and V-V

Tools Required: 1. 7/16" nutdriver or equivalent  
2. Screwdriver set, philips

- STEP 1. Disconnect J23 power cable at FL1J2 (center cabinet) and route cable into right cabinet (UD22).**
- STEP 2. Remove five mating screws as shown in Drawing 1219744, Sheet 8, Sections V-V and T-T (two at the top, two in the middle, and one at the bottom front).**
- STEP 3. Place hardware in bag and place in the base of the cabinet.**
- STEP 4. Remove sixteen mating screws, washers, lock-washers as shown in Drawing 1219744, Sheet 8, Sections P-P and T-T.**
- STEP 5. Place hardware in bag and place in the base of the cabinet**
- STEP 6. Using appropriate tool (e.g., chisel and hammer), remove alligator grommet as shown in Drawing 1219744, Sheet 8, Sections P-P and T-T. The grommet will be destroyed when removed and should be disposed of properly.**

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**Attachment K: Clean-up**

Clean up any remaining RPG installation work

**K.1 Clean up Tasks**

- 1. Coordinate with site technicians and use any excess boxes/packing material to pack site disposal items if they desire to do so.**
- 2. Pick up and dispose of all trash created from the installation process. (e.g. broke tie-wraps, plastic bags)**
- 3. Gather and put away all INCO equipment, documentation, and kits which will travel with the INCO team to the next site or will be sent to the ROC.**
- 3. Ensure areas of equipment are labeled to avoid confusion.**
  - a. Spare parts and testing equipment to be left at site**
  - b. Parts left for disposal by local site IAW their agency's current policy.**
  - c. Equipment to be shipped back to NRC**
- 4. Work with site ESA/technicians to clean up obsolete demarc wiring, re-label demarc blocks, etc.**

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| SIZE | CAGE CODE | DWG NO. | REV |
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**Attachment L: Formal Acceptance and Turnover of the Equipment**

**NWS: Attachment 2 to Mod Note 63 coordinated with site MIC**

**DOD: AFTO 217. Use the provided AFTO Form 217 with attached instructions for completion. This form and instructions will be provided to site personnel by INCO Team. This form also serves as receipt of accountable property.**

**FAA: Attachment 2 to EEM Modification Handbook 6345.1, CH XX, Chap XX**

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**Attachment M: Documentation Reporting Procedures****M.1 Instructions for updating System Allocation Documents (SAD)**

A System Allocation Document (SAD) contains information on all major elements at the LRU level of a given system including Reference Designator, Nomenclature, Part Number, CAGE, Vendor Part Number, and Serial Number. As RPG Systems are built at the NRC, a SAD is generated for each system. To facilitate the SAD process, a database is created at the ROC to generate a generic SAD template for each configuration. As NRC builds a particular configuration, they will update the generic SAD with specific serial numbers as they are assembled in the RPG. The SAD is kept with the RPG equipment and shipped to the site with the equipment for further update during on site installation and checkout of the RPG.

1. A site specific SAD is shipped to the site with the RPG cabinet and its peripheral equipment for final update by the installation team including the Site Name, and RPG serial number.
2. The INCO Team will update the SAD with serial numbers of legacy RPG parts transferred to the RPG.
3. The INCO Team will update SAD with serial numbers for any parts replaced in the RPG, MSCF or RBDDS while under their control.

**M.2 Documenting and tracking problems during and at the conclusion of INCO activities**

Redline any necessary documentation, especially the SAD.

Leave one copy of redline documents with site staff and ship another copy of the redlined documents to the ROC Deployment Team. (See Section M.8.)

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### **M.3 Procedures for documenting Accountable Property**

#### **M.3.1 RPG**

##### **M.3.1.1 DOD and DOT**

DOD Sites: Use the provided AFTO Form 217 with attached instructions for completion. This form and instructions will be provided to site personnel by INCO Team. This form serves a dual purpose, a receipt of accountable property and documentation of installation acceptance.

DOT Sites: Attachment 2 to EEM Modification Handbook 6345.1, CH XX, Chap XX

Both DOD and DOT systems will receive SAD documentation and that will be the basis of any property accounting needed by those agencies.

##### **M.3.1.2 DOC**

1. Remove CD sticker from Legacy RPG and document as required.
2. Attach new Commerce Department (CD) sticker to the cabinet and record the CD information on the SAD, and complete the CD 509. This document must be signed when turning the hardware over to a DOC site. The CD 509 will contain information on what property/property stickers are being transferred to the site. INCO personnel should annotate the CD number in the "NFC ID Number" block. The site property custodian should annotate the "Custodian Code", the "LOCATION" information, and complete the bottom line on the form.

#### **M.3.2 MSCF**

##### **M.3.2.1 DOD and DOT Sites**

DOD Sites: Use the provided AFTO Form 217 with attached instructions for completion. This form and instructions will be provided to site personnel by INCO Team. This form serves a dual purpose, a receipt of accountable property and documentation of installation acceptance.

FAA Sites: Attachment 2 to EEM Modification Handbook 6345.1, CH XX, Chap XX

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DOD and DOT systems will receive SAD documentation and that will be the basis of any property accounting needed by those agencies.

#### M.3.2.2 DOC Sites

1. When MSCF hardware is turned over to the sites, a Commerce Department (CD) sticker will be attached to the MSCF table by the installation team and the CD information will be included on the SAD.
2. In addition, a CD 509 is signed when turning the hardware over to a DOC site. The CD 509 will contain information on what property/property stickers are being transferred to the site. INCO personnel should annotate the CD number in the “NFC ID Number” block. The site property custodian should annotate the “Custodian Code”, the “LOCATION” information, and complete the bottom line on the form.

### M.3.3 RBDDS

#### M.3.3.1 DOD and DOT Sites

DOD Sites: Use the provided AFTO Form 217 with attached instructions for completion. This form and instructions will be provided to site personnel by INCO Team. This form serves a dual purpose, a receipt of accountable property and documentation of installation acceptance.

FAA Sites: Attachment 2 to EEM Modification Handbook 6345.1, CH XX, Chap XX

DOD and DOT systems will receive SAD documentation and that will be the basis of any property accounting needed by those agencies.

#### M.3.3.2 DOC Sites

1. When RBDDS hardware is turned over to the sites, a Commerce Department (CD) sticker will be attached to the RBDDS table by the installation team and the CD information will be included on the SAD.
2. In addition, a CD 509 is signed when turning the hardware over to a DOC site. The CD 509 will contain information on what property/property stickers are being transferred to the site. INCO personnel should annotate the CD number in the “NFC ID Number” block. The site property custodian should annotate the “Custodian Code”, the “LOCATION” information, and complete the bottom line on the form.

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| SIZE | CAGE CODE | DWG NO. | REV |
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**M.4 Procedures and forms for identifying and transmitting outstanding issues**

**Outstanding issues must be quickly reported by the INCO team to the ROC Hotline (1-800-643-3363) for resolution. The INCO team can use the provided “Outstanding Issue” form as guidance. Many necessary details the Hotline will need to know are on the “Outstanding Issue” form.**

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| OUTSTANDING ISSUE FORM   |  |
|--|--|
| Problem identification:  | Problem Number: (provided by Hotline)<br><br>Date: _____ Location/Site ID: _____         |
| Originator Identification:   | Name: _____<br><br>Phone number: _____<br><br>INCO Team Number: _____                    |
| Classification of Issue<br>(circle one)<br>add explanation if needed         | Critical (system down): _____<br><br>Inconvenience (feature, documentation error): _____ |
| Problem Description  |  |
| Probable cause (if known)  |  |
| Hardware/Software Configuration (Identification)                             |  |
| Status: (Circle one)<br>add explanation, if needed.<br>(Provided by Hotline) | Open: _____<br><br>Watch: _____<br><br>Closed: _____                                     |
| Problem Fix/ Workaround Description (if available)                           |  |
| Solution Description   |  |



**M.5 Instructions for recommending changes to the INCO process**

The INCO team will use the provided “Recommended Changes to INCO Procedures” form below to address change issues. Fax a copy of the completed form (1-405-366-2955) to the Deployment Team.

The following is a recommended procedure for processing these changes:

1. User completes “Recommended Changes to INCO Procedures” form to document recommended changes to the INCO process.
2. User then submits recommended change to the ROC Deployment Team fax (1-405-366-2955).
3. The deployment team will receive recommended changes from the fax machine.
4. The deployment team review all submitted changes. Approval and updates will be added to the INCO plan.
5. The deployment team will be responsible for ensuring all changes to the INCO plan are received by all INCO team members as updates.

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| SIZE | CAGE CODE | DWG NO. | REV |
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| Recommended Changes to INCO Procedures  |  |
|---|--|
| INCO Plan<br>Problem Identification<br>Number (provided by<br>Hotline if called): | Site Location:<br>Date:<br>INCO Plan Page:<br>Section/Attachment:<br>Paragraph Number: |
| Originator Identification:  | Name:<br>INCO Team Number:<br>Phone:   |
| ROC Deployment Team<br>POC:   | Name:  |
| Priority of Change<br>(circle one)<br>add explanation if needed                   | Critical:<br><br>Urgent:<br><br>Routine:   |
| Description of Change<br>(i.e delete the following,<br>rewrite this paragraph)    |  |
| Suggested rewrite of<br>problem area  |  |
| Justification of Change<br>Recommended  |  |

**M.6 Tracking shipment of Legacy RPG equipment to the NLSC**

The NLSC designated carrier will provide tracking and shipping status upon request.

**M.7 Include checklist used during the installation and checkout process****M.7.1 Pre-inspection checklist**

Site: \_\_\_\_\_

| <b>Pre-Inspection and Test of Legacy System (D.3)</b>                                     | <b>Initials</b> |
|---|-----------------|
| 1. UCP Status/Alarm Information Collected (D.3.1)   |                 |
| 2. Wideband Connections Verified (D.3.2, Step 3)  |                 |
| 3. Narrowband Connections Verified (D.3.2, Step 3)  |                 |
| 4. Remote RIDDS T1 Link Verified (D.3.2, Step 3)<br>(Sites to Receive a Remote BDDS Only) |                 |
| 5. Wideband Link Functionality Verified (D.3.3.1)   |                 |
| 6. Dial-In Narrowband Functionality Verified (D.3.3.2.1)                                  |                 |
| 7. Dedicated Narrowband Functionality Verified (D.3.3.2.2)                                |                 |
| 8. Remote UCP Link Verified (D.3.4.2)<br>(UCP from a DOD and DOT system only)             |                 |
| 9. Dedicated Modem Information Annotated (D.3.4.1)  |                 |
| 10. Outage Notification Sent to Users (D.3.2, Step 1)                                     |                 |
| Date/Time Completed: _____  |                 |

**M.7.2 Installation checklists****M.7.2.1 RPCPCA Installations**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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## M.7.2.1.1 Standard DOC systems

| <b>Standard DOC System RPGPCA Installation (E and F.1)</b> | <b>Initials</b> |
|--|-----------------|
| 1. Install Boxed Hardware and Connect UPS (E.1)            |                 |
| 2. Move RPG Into Position (F.1.1)                          |                 |
| 3. Power Down Legacy RPG (F.1.2)                           |                 |
| 4. Modem Cards Transferred (F.1.3.1)                       |                 |
| 5. External Cabling Disconnected (F.1.3.2)                 |                 |
| 6. Legacy RPG Removed (F.1.3.3)                            |                 |
| 7. External Cabling Connected (F.1.4.1)                    |                 |
| 8. Cables Re-labeled (F.1.4.2)                             |                 |
| 9. Demarcation Rewired (F.1.5)                             |                 |
| 10. RPGPCA Powered Up (F.1.6)                              |                 |
| Date/Time Completed: _____                                 |                 |

## M.7.2.1.2 DoD systems

| <b>DoD System RPGPCA Installation (E and F.2)</b> | <b>Initials</b> |
|---|-----------------|
| 1. Install Boxed Hardware and Connect UPS (E.2)   |                 |
| 2. Move RPG Into Position (F.2.1)                 |                 |
| 3. Power Down Legacy RPG (F.2.2)                  |                 |
| 4. Modem Cards Transferred (F.2.3.1)              |                 |
| 5. External Cabling Disconnected (F.2.3.2)        |                 |
| 6. Legacy RPG Removed (F.2.3.3)                   |                 |
| 7. External Cabling Connected (F.2.4.1)           |                 |
| 8. Cables Re-labeled (F.2.4.2)                    |                 |
| 8. Demarcation Rewired (F.2.5)                    |                 |
| 9. RPGPCA Powered Up (F.2.6)                      |                 |
| Date/Time Completed: _____                        |                 |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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## M.7.2.1.3 DOT systems

| <b>DOT System RPGPCA Installation (E and F.3)</b>                | <b>Initials</b> |
|--|-----------------|
| 1. Install Boxed Hardware and Connect UPS (E.3)                  |                 |
| 2. Redundant Channel in Control and Operational (F.3.1)          |                 |
| 3. Move RPG Into Position (F.3.2)                                |                 |
| 4. Power Down Legacy RPG (F.3.3)                                 |                 |
| 5. Modem Cards Transferred (F.3.4.1)                             |                 |
| 6. Relay Box Power Supply Transferred (F.3.4.2)                  |                 |
| 7. External Cabling Disconnected (F.3.4.3)                       |                 |
| 8. Legacy RPG Removed (F.3.4.4)                                  |                 |
| 9. External Cabling Connected (F.3.5.1)                          |                 |
| 10. Cables Re-labeled (F.3.5.2)                                  |                 |
| 11. Complete Preliminary Setup For 1st Channel Setup (F.3.6.1)   |                 |
| 12. RPGPCA Powered Up For 1st Channel (F.3.6.2)                  |                 |
| 13. Initial Checkout Tests Completed For 1st Channel (F.3.6.3)   |                 |
| 14. Channel Control Switched to 1st Channel (F.3.6.4)            |                 |
| 15. 1st Channel Checkout Completed (F.3.6.5)                     |                 |
| 16. Demarcation Rewired (F.3.6.6)                                |                 |
| 17. Narrowband Checked For 1st Channel (F.3.6.7)                 |                 |
| 18. Install Boxed Hardware and Connect UPS For 2nd Channel (E.3) |                 |
| 19. Move RPG Into Position For 2nd Channel (F.3.2)               |                 |
| 20. Power Down Legacy RPG For 2nd Channel (F.3.3)                |                 |
| 21. Modem Cards Transferred For 2nd Channel (F.3.4.1)            |                 |
| 22. Relay Box Power Supply Transferred For 2nd Channel (F.3.4.2) |                 |
| 23. External Cabling Disconnected For 2nd Channel (F.3.4.3)      |                 |
| 24. Legacy RPG Removed For 2nd Channel (F.3.4.4)                 |                 |
| 25. External Cabling Connected For 2nd Channel (F.3.5.1)         |                 |

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| SIZE | CAGE CODE | DWG NO. | REV |
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| <b>DOT System RPGPCA Installation (E and F.3)</b> | <b>Initials</b> |
|---|-----------------|
| 26. Cables Re-labeled for 2nd Channel (F.3.5.2)   |                 |
| 27. 2nd Channel Powered Up (F.3.7)                |                 |
| 28. Relay Box Rewired (F.3.8)                     |                 |
| 29. Checkout Completed on Second Channel (F.3.9)  |                 |
| Date/Time Completed: _____                        |                 |

## M.7.2.1.4 DOC MLOS systems

| <b>DOC MLOS System RPGPCA Installation (E and F.4)</b> | <b>Initials</b> |
|--|-----------------|
| 1. Install Boxed Hardware and Connect UPS (E.1)        |                 |
| 2. Move RPG Into Position (F.4.1)                      |                 |
| 3. Power Down Legacy RPG (F.4.2)                       |                 |
| 4. Modem Cards Transferred (F.4.3.1)                   |                 |
| 5. Short Haul Modem Transferred (F.4.3.2)              |                 |
| 6. External Cabling Disconnected (F.4.3.3)             |                 |
| 7. Legacy RPG Removed (F.4.3.4)                        |                 |
| 8. External Cabling Connected (F.4.4.1)                |                 |
| 9. Cables Re-labeled (F.4.4.2)                         |                 |
| 10. Demarcation Rewired (F.4.5)                        |                 |
| 11. RPGPCA Powered Up (F.4.6)                          |                 |
| Date/Time Completed: _____                             |                 |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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## M.7.2.1.5 DOC RPG move systems

| <b>DOC RPG Move System RPGPCA Installation (E and F.5)</b> | <b>Initials</b> |
|--|-----------------|
| 1. Install Boxed Hardware and Connect UPS (E.1)            |                 |
| 2. Move RPG Into Position (F.5.1)                          |                 |
| 3. Modem Cards Transferred (F.5.2)                         |                 |
| 4. Additional Hardware Installed (F.5.3)                   |                 |
| 5. External Cabling Connected (F.5.4.1)                    |                 |
| 6. Demarcation Rewired (F.5.5)                             |                 |
| 7. RPGPCA Powered Up (F.5.6)                               |                 |
| 8. Power Down Legacy RPG (F.5.7)                           |                 |
| 9. External Cabling Disconnected From Legacy RPG (F.5.8)   |                 |
| 10. Legacy RPG Removed (F.5.9)                             |                 |
| Date/Time Completed: _____                                 |                 |

## M.7.2.2 MSCF Installations

## M.7.2.2.1 Local MSCF

| <b>Local MSCF Installation (N)</b>                | <b>Initials</b> |
|---|-----------------|
| 1. UCP Equipment Removed/Moved (N.2)              |                 |
| 2. UCP Table Modified (N.3.1)                     |                 |
| 3. MSCF Equipment Installed (N.3.2 through N.3.7) |                 |
| 4. New External Cables Connected (N.4.1)          |                 |
| 5. Local MSCF Powered Up (N.5)                    |                 |
| Date/Time Completed: _____                        |                 |

|      |           |         |     |
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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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## M.7.2.2.2 Distant MSCF

| <b>Distant MSCF Installation (O)</b>              | <b>Initials</b> |
|---|-----------------|
| 1. Remote UCP Equipment Removed/Moved (O.2)       |                 |
| 2. UCP Table Modified (O.3.1)                     |                 |
| 3. MSCF Equipment Installed (O.3.2 through O.3.9) |                 |
| 4. New External Cables Connected (O.4.1)          |                 |
| 5. Distant MSCF Powered Up (O.5)                  |                 |
| Date/Time Completed: _____                        |                 |

## M.7.2.3 Remote BDDS (RBDDS) Installation

| <b>RBDDS Installation (P)</b>            | <b>Initials</b> |
|--|-----------------|
| 1. T1 Line at Radar Site Connected (P.1) |                 |
| 2. Setup RBDDS table (P.3)               |                 |
| 3. RBDDS equipment Installed (P.4)       |                 |
| 4. External Cables Connected (P.5.1)     |                 |
| 5. Table and Cables Labeled (P.5.2)      |                 |
| 6. RBDDS Powered Up (P.6)                |                 |
| Date/Time Completed: _____               |                 |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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## M.7.3 Acceptance testing checklists

| <b>RPGPCA Checkout Tests (H.1)</b>                          | <b>Initials</b> |
|---|-----------------|
| 1. Prerequisites Met (H.1.1 Assumptions a., b., c., and f.) |                 |
| 2. Basic LAN Connectivity OK (H.1.2)                        |                 |
| 3. RPG Processor Boot OK (H.1.3)                            |                 |
| 4. Local BDDS Processor Boot OK (H.1.4, NWS only)           |                 |
| 5. RPG Processor Setup Complete (H.1.5)                     |                 |
| 6. Network Validation Check OK (H.1.6)                      |                 |
| 7. Applications-Level Checks OK (H.1.7)                     |                 |
| 8. Narrowband Checks OK (H.1.8)                             |                 |
| Date/Time Completed: _____                                  |                 |

| <b>Local MSCF Checkout Tests (N.6, NWS only)</b>            | <b>Initials</b> |
|---|-----------------|
| 1. Prerequisites Met (N.6.1 Assumptions a., b., c., and f.) |                 |
| 2. MSCF Processor Boot OK (N.6.2)                           |                 |
| 3. MSCF Processor Setup Complete (N.6.3)                    |                 |
| 4. Applications-Level Checks OK (N.6.4)                     |                 |
| 5. Jaz Drive Check OK (N.6.5)                               |                 |
| 6. Dial Modem Setup and Test (N.6.6)                        |                 |
| Date/Time Completed: _____                                  |                 |

| <b>Distant MSCF Checkout Tests (O.6, from DOD and FAA Systems)</b> | <b>Initials</b> |
|--|-----------------|
| 1. Prerequisites Met (O.6.1 Assumptions a., b., c., and f.)        |                 |
| 2. MSCF Processor Boot OK (O.6.2)                                  |                 |
| 3. MSCF Processor Setup Complete (O.6.3)                           |                 |
| 4. Applications-Level Checks OK (O.6.4)                            |                 |
| 5. Jaz Drive Check OK (O.6.5)                                      |                 |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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| <b>Distant MSCF Checkout Tests (O.6, from DOD and FAA Systems)</b> | <b>Initials</b> |
|--|-----------------|
| 6. Dial Modem Setup and Test (O.6.6)                               |                 |
| Date/Time Completed: _____   |                 |

| <b>Remote BDDS (RBDDS) Checkout (P.7, if applicable)</b>    | <b>Initials</b> |
|---|-----------------|
| 1. Prerequisites Met (P.7.1 Assumptions a., b., c., and f.) |                 |
| 2. RBDDS Processor Boot OK (P.7.2)                          |                 |
| 3. Applications Software Check OK (P.7.3)                   |                 |
| 4. Network Connectivity Verification Check OK (P.7.4)       |                 |
| 5. Client Connectivity Verification Check OK (P.7.5)        |                 |
| Date/Time Completed: _____                                  |                 |

| <b>Final Checkout/Acceptance (H.2 through H.10)</b>       | <b>Initials</b> |
|---|-----------------|
| 1. Distant Users Receiving Data OK (H.2)                  |                 |
| 2. Prerequisites Met (H.3 through H.5.)                   |                 |
| 3. Assessment Test Procedures Complete Successfully (H.6) |                 |
| 4. RPG Operational and Stable (H.7)                       |                 |
| 5. Password/Account Management Completed (H.8)            |                 |
| 6. Re-label MSCF Table if Required (H.9)                  |                 |
| 7. Relocate RRRAT if Required (H.10)                      |                 |
| Date/Time Completed: _____                                |                 |

|      |           |         |     |
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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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**M.8 Documentation Distribution**

**Make a copy of the following documentation. Leave one copy with the site POC and send one back to the ROC in the pre-labeled FEDEX envelope received as part of the “Other equipment Kit” (if not available, contact the ROC Hotline at 1-800-643-3363 and request a mailing address and billing account number.**

**Required documents:**

- 1. Attachment C inventory sheets**
- 2. Section 18.2 Legacy Parts to be returned to NRC for reuse checklist**
- 3. SADs (verified in Attachment E and updated in step 14 of Section F.1.3.1)**
- 4. Post-ECP Circuits reports (possibly corrected in step 14 of Section F.1.3.1)**
- 5. Table C of drawing 2300006 (only if corrected in step 14 of Section F.1.3.1 or per Attachment C Gateway Firmware Check) - copy for ROC only**
- 6. Formal Acceptance Forms (see Attachment L)**
- 7. Property Accounting Forms (see Section M.3)**
- 8. Completed checklists (see Section M.7)**
- 9. Any routine INCO Plan Changes (see Section M.5) - copy for ROC only**

|      |           |         |     |
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**Attachment N: Local MSCF Installation**

DOC systems have a Local MSCF. The MSCF is the functional equivalent of the legacy UCP equipment. DOC systems have the MSCF located locally (within the same building) with the RPG Processor.

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

Reference the EHB 6-525, Foldout 7-2, Sheet 1, for the DOC MSCF Interconnectivity Diagram

**N.1 Go to MSCF Location**

The Local MSCF for DOC systems is normally located in the same building with the RPG Processor.

**N.2 Remove UCP Equipment**

The Unit Control Position (UCP) equipment will be replaced by the Master System Control Function (MSCF) equipment and must be removed prior to installation of the MSCF.

After the removal of the UCP equipment, all items which will be disposed of will be turn over to the local site property manager. The local site property manager will dispose of these items IAW their agency's current policy.

**NOTE**

**In some cases, the UCP equipment may not be installed or mounted on the original UCP table. In this case, the new MSCF equipment will be "placed" in the same location as the present UCP equipment.**

**NOTE**

**An RRRAT PC will probably be in use at the UCP rather than a CDT-100 terminal.**

**WARNING**

**DO NOT damage or discard UCP equipment until RPG (MSCF) passes acceptance testing.**

N.2.1 Remove the UCP Terminal UD24 (CDT-100)

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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**NOTE**

**If a RRRAT is installed at the UCP position, proceed to section N.2.2.  
Reference Document 1214559.**

One technician is required for this procedure.

Equipment and Tools Required:

1. Screwdriver set, flat-tip
2. Screwdriver set, phillips-tip

Initial Conditions/Preliminary Setup: Perform the applicable shutdown procedure in EHB 6-520, paragraph 6-5.3.1. Refer to Figure 1-2.4 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for equipment location.

**NOTE**

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

**STEP 1. Place power switch at lower right corner of the front of terminal to the OFF position. The power switch may be behind a WSR-88D information frame that is sometimes attached to the front of the terminal.**

**STEP 2. Loosen eight screw on mounting hardware at terminal base.**

**STEP 3. Slide mounting hardware away from terminal base.**

**STEP 4. Disconnect AC power cord at back of terminal.**

**STEP 5. Disconnect keyboard connector at left side of terminal base.**

**STEP 6. Disconnect RS-232 cable from SES 1-EIA at back of terminal.**

**STEP 7. Disconnect RS-232 cable from SES 2-AUX at back of terminal.**

**STEP 8. Remove terminal and keyboard, and set aside.**

**N.2.2 Remove the RRRAT**

If a CDT-100 was installed at the UCP position, proceed to section N.2.3.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Reference Document 1214559, sheets 16 and 17

Equipment and Tools Installed:

1. Screwdriver set, flat-tip
2. Screwdriver set, phillips-tip

Initial Conditions/Preliminary Setup: None.

- STEP 1.** On both the Applications and Console windows on the RRRAT display, click the “X” in the upper-right corner and then click “Yes” to shutdown these functions.
- STEP 2.** On the Windows 95/98 desktop, click the Start button (bottom- left)  
\*Shutdown \*Shutdown the Computer. This should power-off the processor.
- STEP 3.** Disconnect the monitor video cable at the back of the RRRAT processor and also disconnect the monitor power cable at the surge suppressor assembly or power strip outlet. Cut tie- wraps as necessary to free up cables and remove monitor and associated video and power cables. Set the monitor aside for relocation.
- STEP 4.** Disconnect the remaining cables at the back of the RRRAT processor and also disconnect the processor power cable at the surge suppressor assembly or power strip outlet. Cut tie- wraps as necessary to free up cables and remove the processor and power cable.
- STEP 5.** Remove the RRRAT processor, keyboard, and mouse; set aside for relocation.

### N.2.3 Remove the Line Printer UD29

Reference Document 1215188.

One technician is required for this procedure

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup: NONE

**NOTE**

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

- STEP 1. Place Line Printer power switch to the OFF position.**
- STEP 2. Disconnect AC power cord at back of the Line Printer.**
- STEP 3. Disconnect the W224 cable from the PORT at the back of Line Printer.**
- STEP 4. Remove Line Printer and set aside.**

#### N.2.4 Disconnect/Remove External Communications Cables

External cables from the UCP must be located, identified and disconnected. Some cables will be re-labeled and reused. Other cables will be removed and replaced by new cables. Some DTE cables have already been disconnected during previous sections. None of the cables removed IAW Table N.2.4-1 will be reused after the RRRAT is relocated.

Locate and disconnect the external cables identified in Table N.2.4-1 (cut tie-wraps as necessary). (Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.4 Radar Product Generator Group (RPG), ICD, Sheet 2 of 2)

**Table N.2.4-1 Disconnect Local MSCF External Cables**

| <b>From</b>                       | <b>Cable ID</b> | <b>To</b>                      | <b>Connection</b> | <b>Disposition</b> |
|-----------------------------------|-----------------|--------------------------------|-------------------|--------------------|
| RPG UD22                          | W209            | UD34J2                         | TELCO             | Remove             |
| UD34J2                            | 34W1**          | UD34A1,A2,A3                   | TELCO             | Remove             |
| UD34A1                            | 34W900 or 34W2  | UD34CP1                        | DTE               | Remove             |
| UD34A2                            | 34W901 or 34W3  | UD34A12                        | DTE               | Remove             |
| UD34A9A3 Dial Modem<br>Telco Jack | 34W902          | Surge Suppressor<br>UD34E1 OUT | TELCO             | Remove*            |
| UD34A3                            | W224            | Printer UD29                   | DTE               | Remove             |

\* If a new cable 71W902 cable is not provided, this cable can be used in its place (with new labels if provided).

\*\* Remove bracket and cable from this table.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**N.2.5 Remove the Limited Distance Modem UD34A1, A2, A3**

Reference Drawing 1214559, Sheet 2.

One technician is required for this procedure.

Equipment and Tools Required:

1. Screwdriver set, flat-tip
2. Screwdriver set, phillips-tip

Initial Conditions/Preliminary Setup: NONE

**NOTE**

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

**STEP 1. Disconnect power cable from the back of the LDM (Refer to Diagram XX).**

**STEP 2. Remove the screw on the brackets which secure the LDM to the UCP table.**

**STEP 3. Remove the LDM and set aside.**

**N.2.6 UCP RRRAT Relocation**

**Ask the site ESA if they presently use the UCP RRRAT to dial the RDA RRRAT and if is the only office PC with this capability. If so, perform Section H.10 at this time. If not, this issue can be addressed on Day 3 when section H.10 is normally completed.**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**N.3 Set up MSCF****NOTE**

**Some sites may not have had the legacy UCP equipment installed or mounted on the original UCP table. If this is the case, install or mount equipment where directed by local site staff.**

N.3.1 Drill holes and install T-nuts on UCP table, UD71MP1 (P/N 1214560-10X)

**STEP 1. Using UCP drawing 1214560, measure hole pattern D on UCP table surface and drill four (4) 1/4" holes for installation of mounting brackets.**

**NOTE**

**For a UCP table with a laminated top, it may be necessary to score the table surface with a small drill bit to allow T-nut "prongs" to penetrate the external table layer. Also, for a Distant MSCF, the front bracket which will hold the UD71A5 modem must be relocated towards the rear of the table approximately 1".**

**STEP 2. Insert T-nuts in the four holes at top of table (can be hammered in on a wooden table). For a UCP table with a laminated top, it will be necessary to seat each T-nut in top surface by temporarily inserting a 10/32 - 1 1/4" screw (with washers) through bottom surface and tighten accordingly.**

**STEP 3. Remove all old designator labels from the table.**

N.3.2 Install MSCF Processor (SUN ULTRA 5) UD71A1

Reference Drawing 2300023.

Two technicians are required for this procedure.

Equipment and Tools Required: Screwdriver set, philips tip

Initial Conditions/Preliminary Setup:

Locate the position to mount the MSCF Processor UD71A1 at the MSCF Workstation UD71.(Refer to Drawing 2300023 for part location.)

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**NOTE**

**Read paragraph 6-5.2 of the EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems) for special considerations for replacement procedures.**

**STEP 1. With a second technician, move the MSCF Processor to its installation position on MSCF stand.**

**STEP 2. Mount processor using brackets and 10/32 - 1 1/4" screws. Front bracket should be right behind front feet of processor.**

**STEP 3. Connect and label all remaining cables to the back of the MSCF Processor.**

**STEP 4. Ensure A/C Power Switch at rear of unit is in the OFF position.**

**STEP 5. Locate and connect the AC power cord (71W187) to the back of the MSCF Processor with P1 end plugged into the 71E1 surge suppressor on power strip.**

### N.3.3 Install MSCF Monitor (SUN) UD71A2

Reference Drawing 2300023

Two technicians are required for this procedure.

Equipment and Tools Required: Screwdriver set, philips tip

Initial Conditions/Preliminary Setup:

Locate the position to mount the Monitor UD71A2 at the MSCF Workstation UD71. (Refer to Drawing 2300023 for the Keyboard location)

**STEP 1. With help from the second technician, place the MSCF Monitor into position on the MSCF stand.**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 2. Attach mounting brackets to secure monitor with 10/32 - 3/8" screws.**

**STEP 3. Locate and connect the MSCF Monitor cable to the adapter cable (UD71W214) then plug adapter cable into the back of the MSCF Processor (UD71A1J4).**

**STEP 4. Locate and connect the MSCF Monitor AC power cord (UD71W188) from the back of the MSCF Monitor to the MSCF surge suppressor (UD71E1) or power strip.**

**STEP 5. At the front of the monitor, turn the power switch to the OFF position.**

N.3.4 Install MSCF Keyboard (Sun) UD71A3 and MSCF Mouse (SUN) UD71A4

Reference Drawing 2300023

One technician is required for this procedure.

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup:

Locate the position to install the MSCF Keyboard UD71A3 and MSCF Mouse UD71A4 at the MSCF Workstation UD71. (Refer to Drawing 2300023 for the part location.)

**STEP 1. Place Keyboard face down upon the MSCF workstation.**

**STEP 2. Coil the cord to prevent interference until ready to attach.**

**STEP 3. Plug the mouse cord into the bottom of the keyboard and thread the cable around a channel on the bottom of the keyboard.**

**STEP 4. Connect Keyboard cable to the Keyboard port at the back of MSCF Processor (UD71A1J1).**

**STEP 5. Put the Keyboard and Mouse into position on the MSCF Workstation.**

N.3.5 Install MSCF Backup Storage Device (IOMEGA JAZ) UD71A6

Reference Drawing 2300023

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Equipment and Tools Required: Scribe.

One technician is required for this procedure.

Initial Conditions/Preliminary Setup:

Locate the position to install the JAZ Drive UD71A6 at the MSCF Workstation UD71. (Refer to 2300023, Item 7 for part location.) Set switch on back of unit to '3' using a scribe. Move termination switch to far left one position to force termination 'ON'.

**STEP 1. Place the JAZ Drive on the MSCF Table**

**STEP 2. Connect the SCSI cable UD71W211 to the back of the JAZ Drive on the bottom connector and to the PCI 3 card in the UD71A1 processor SCSI channel A (top right card and the right connector when viewed from rear).**

**STEP 3. Locate and connect the AC power cord UD71W190 through the DC convertor to the JAZ Drive. Connect P1 end of UD71W190 to surge suppressor (UD71E1) on power strip. Ensure its power switch at the rear of unit is on (1).**

N.3.6 Cable Tie-wrap

For all MSCF cables installed, loop the cables into small loops and tie-wrap the individual cables loops to remove the excess "dangle" in the cable.

N.3.7 Install MSCF Color Printer (XEROX PHASER 750) UD79A1

Reference Drawing 2300024

Two technicians are required for this procedure.

Equipment and Tools Required:

- a. Strapping Tape
- b. Scissors

Initial Conditions/Preliminary Setup:

- a. Locate the position to install the Color Printer UD79A1 at the MSCF Printer Workstation UD79MP1 (Refer to Drawing 2300024 for part location).
- b. Ensure the power to the MSCF Color Printer is switched to Off. The power switch is located behind the paper output tray.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**NOTE**

**Save all packing material in case moving or subsequent shipment is necessary.**

**STEP 1.      Unpack and set the new Color Printer in place.**

- a.      Open box, (the instructions are on the box), by removing the 4 plastic guards near the bottom. Lift the entire top of the box off of the pallet.**
- b.      Unpack the printer accessories and take inventory. Contents should include documentation, power cord, parallel cable adapter, four (4) toner cartridges, and media sampler.**
- c.      Remove the top plastic bag from the Color Printer. Pull down the bottom plastic bag to expose the Color Printer.**

**WARNING**

**The color printer weighs approximately 95 lbs. Ensure a second technician is available to assist.**

- d.      With the help of a second technician, lift the Color Printer from its shipping pallet, use the indents at the front and back of the Color Printer for hand placement. Place the Color Printer onto the MSCF printer table, UD79MP1. Adjust position of support rails and feet supporters as necessary.**

**STEP 2.      Remove all the adhesive tape on new Color Printer.**

**NOTE**

**When installing the cartridges, be careful not to leave the side door open for an extended time; other components can be damaged by light exposure.**

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 3. Install the toner cartridges. See EHB 6-525, Figure 6–13, for reference.**

- a. Remove each toner cartridge from its packaging. Make sure all tape is removed.
- b. Remove the shipping cover from each cartridge.
- c. Open the Color Printer's toner door located on the right side.
- d. Install each toner cartridge in the slot labeled for its color.
- e. Close the toner door to the Color Printer.

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**STEP 4. Prepare the imaging unit. (Use EHB 6-525, Figure 6–13 for reference.)**

- a. Open the Color Printer's front door.
- b. Remove the orange plastic tag inside printer front opening.
- c. Turn the top blue lever up from the LOOSEN position to the TIGHTEN position to align the triangle on the lever with the triangle on the surface of the imaging unit.
- d. Close the Color Printer's front door.

**STEP 5. Add paper to paper tray.**

- a. Locate the paper tray, located on the right side below the paper–output tray, and remove the paper tray.
- b. Remove the packing material from inside the tray; twist the plastic lock, pull it out.
- c. Push down the tray's metal plate until it clicks, locking it.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- d. Fan the paper. Tray capacity is 250 sheets.
- e. Place the paper in the tray under the 2 corner tabs.
- f. Return the paper tray to the paper tray slot.

**STEP 6.** Open the front door of Color Printer and place the User's Guide into the pocket located inside the printer door and put the CD with the printer.

**STEP 7.** Connect the Ethernet cable (DOD/DOT: W333).

**DOD/DOT Sites:** from the MSCF processor (J2) to the port labeled "Ethernet" at the back of the Color Printer.

The external connection for NWS sites will be discussed in N.4.1.

**STEP 8.** Plug the power cord (W129) into the outlet at the back of the Color Printer.

**NOTE**

To protect the Color Printer from a power surge, make sure the printer's power switch is in the Off position before plugging in the cord.

**NOTE**

All power on procedures should be performed after all components have been installed and all cabling and re-labeling has been completed. See section N.5 below.

- STEP 9.** Plug the other end of the power cord (W129) into the MSCF Surge Suppressor (UD71E1) if printer is adjacent to the MSCF. Otherwise plug it into the appropriate AC Power supply.
- STEP 10.** Turn the power switch On to the Color Printer.
- STEP 11.** The Color Printer goes through a series of self-tests, taking about three (3) minutes and then the Color Printer prints out a startup page.
- STEP 12.** The power-up sequence is complete. The green indicator is On steady, the amber indicator is off, and the front panel message reads Ready.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**STEP 13.** For setup procedures and instructions see Section 6–6, paragraph 6–6.22 of the EHB 6-525 WSR–88D RPG Maintenance Manual (Open Systems). See the provided “ORPG Access Information” list for the third octet of the IP address (in lieu of the hosts table).

**STEP 14.** This completes the installation procedure for the Color Printer.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## N.4 Connect

### N.4.1 Procedures to Connect External Communication Cables

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

Locate and connect the external cables identified in Table N.4.1.-1 (Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-2 WSR-88D System Interconnectivity,(NWS with Remote RDA Terminal), Sheet 1 of 3)

**Table N.4.1-1 Connect Local MSCF External Cables**

| From     | Cable ID  | To           | Connection            |
|----------|-----------|--------------|-----------------------|
| CP2      | W902***** | UD71E1       | IN                    |
| UD71CP1* | 71W902**  | UD71A1 PCI 1 | Dial Modem Card       |
| UD71CP1* | W910***   | UD34A9A3     | Plug-in Modem Card    |
| UD70CP1  | W331****  | UD71A1J2     | MSCF Ethernet Port    |
| UD70CP10 | W332****  | UD79A1       | Printer Ethernet Port |

\* UD71CP1 is a new duplex jack that must be installed on the OUT jack of the UD71E1 Surge Suppressor assembly. Also, at this time, verify that the UD71E1 IN jack has a dial telco cable connected. See EHB 6-525, Figure FO7-2, Sheet 1.

\*\* May be provided with labels. If not, labels will be provided and it can either be made on-site or the original 34W902 cable can be reused with new labels. See EHB 6-525, Figure FO7-2, Sheet 1.

\*\*\* May be provided with labels. If not, labels will be provided and it will be custom made to length on-site. This cable will not even be used if the RRRAT (UD34A9) will not be relocated and reused. See EHB 6-525, FO7-2, Sheet 1.

\*\*\*\* Some cables may be especially long (i.e. 300 feet). Consult with the on-site electronic technician to discuss the path these cable will run (under floor panels, above ceiling). Loop the excess and store under the floor or above the ceiling as appropriate.

\*\*\*\*\* The original W902 or an unlabeled dial line cable may still be connected. If no dial line is available, no cable will be connected at all.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**N.5 Power Up****NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

Use the startup procedures in Table N.5-1 below to power up the MSCF. Reference Chapter 4, Section 4.5.3 of EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems).

**Table N.5-1 MSCF Startup Procedure**

| Step   | Equipment/Location                     | Action/Procedure   | Indication/Reference  |
|--|--|--|---|
| 1  | MSCF Monitor UD71A2                    | Set the Power switch to the On position.                     | Applies power to the MSCF Monitor.  |
| 2  | MSCF Printer UD79A1                    | Set the Power switch to the On position.                     | Applies power to the MSCF Printer.  |
| 3  | MSCF Jaz Disk Drive UD71A6             | Set the Power switch to the On position.                     | Applies power to the MSCF Jaz Disk Drive.   |
| <p style="text-align: center;"><b>NOTE</b></p> <p style="text-align: center;">Step 4 applies only to the Distant MSCF configuration.</p> |  |  |   |
| 4  | MSCF Standalone Dedicated Modem UD71A5 | Set the Power switch (rear of unit) to the On (1) position.  | Applies power to the MSCF Standalone Dedicated Modem, and the LCD displays a status message.  |
| 5  | MSCF Processor UD71A1                  | Set the Power switch (rear of unit) to the Off (Ø) position. | The power up procedures must end in a state that has everything powered up except the Sun processors. This will be the initial condition of the system prior to beginning checkout and testing. |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## N.6 Local MSCF (UD71) and Printer (UD79A1) Checkout and Testing

The ROC hotline (800-643-3363), backed by RPG engineering staff, will be available to assist via telephone.

Reference Attachment Q troubleshooting procedures to resolve problems for which specific troubleshooting guidance is not provided.

These tests are designed to provide the initial checkout of a Local MSCF. These tests will verify hardware operability, verify if all external communications links are functional and validate that correct site specific software has been loaded for all network-type components. MSCF applications software functionality will be verified; however, actual RPG applications software functionality is verified as part of the RPGPCA Checkout Tests (H.1) and subsequent system-level tests within that attachment.

### N.6.1 Assumptions

- a. All RPGPCA equipment is installed IAW Attachment F and the RPGPCA Checkout Tests are completed (Section H.1).
- b. All Local MSCF equipment is installed and connected IAW Sections N.3 and N.4 of this attachment.
- c. All MSCF equipment is powered-on except the Sun processor. The power-on of the Sun processor will be done as part of these tests so that boot sequences can be evaluated.
- d. All network components were configured and/or had software loaded for this specific site when built as a kit.
- e. The Sun processor was shipped with no root password set.
- f. All pre-inspection verifications and tests were performed IAW Attachment D.

### N.6.2 Local MSCF Processor Boot Analysis

**STEP 1. Insert a formatted Jaz Disk cartridge into the A6 Jaz drive (reference section 13.10).**

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**NOTE**

The next steps will involve powering on the processor and monitoring the boot sequence for possible errors. Before performing these steps, locate EHB 6-525, Section 6-3, Figure 6-2 Fault Note 22 and study the “ERROR NOTES” which are listed just prior to the example of a good boot. This will help pinpoint the specific portions of the boot sequence that should be checked for possible errors.

**STEP 2.** Power on the MSCF processor with rocker switch at rear of unit.

**NOTE**

When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.

**STEP 3.** Observe the boot sequence on the monitor. Compare boot sequence to the example provided in EHB 6-525, Section 6-3, Figure 6-2 Fault Note 22. If any boot-type problems are noted, troubleshoot using EHB 6-525 flowcharts (enter “Y” on Figure 6-2, sheet 3). If necessary, reboot processor per Fault Note 22 to evaluate corrective actions.

**NOTE**

If problems are noted on the Jaz disk, delay any further troubleshooting on this problem until after this attachment is completed. This will allow for proper disk formatting if necessary.

**NOTE**

If the Fault Note 22 error indicated a “link down” message for hme0 (ERROR NOTE 4), the most probable cause at this time is external cable W331 (assuming all RPGPCA requirements are completed). Check connectivity of that cable first, along with RPGPCA internal cable 70/170W200.

**NOTE**

In this step and in many subsequent sections, some cable interconnection information is provided. When asked to troubleshoot these interconnections or to “check connectivity”, the first step should be just to check for tight connections and possibly disconnect/reconnect the cable. In many cases, this could correct the problem. This is especially true of any RJ-45 type connections and any Centronics Telco-type connections.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 4.** Locate the “Revision” (1.x) number and date annotated on the provided Open RPG Access Information List (at bottom of table) for the pre-loaded software . Compare this to the current INCO team/site software load CDs (Version [Rev] and Date). Pay particular attention to the dates. Even if the revision numbers match (e.g., “v1.113”), if the dates do not match the system must be reloaded. If newer software has been provided to the INCO team/site, then fully reload software now IAW EHB 6-525, Table 4-53. Steps 34-36 of Table 4-53 can not be performed until after a normal user account is set up when step 2 is completed in the next section.

### N.6.3 MSCF Processor Setup

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 1.** If not already set as part of a full system software load (N.6.2, Step 4 above), set a temporary root password IAW steps 21-23, 25-27, and 33 of EHB 6-525, Table 4-53. This root password will be used for the remainder of the INCO period and should be controlled on a “need to know” basis by the INCO Team Chief. The site system administrator should be provided this password and advised to reset the password after INCO/Acceptance.
- STEP 2.** Log into the CDE as root and add a temporary normal user called “inco” with a password of “test” (Attachment G, Table G.4-1). INCO personnel can use this account for all checkout and acceptance tests. The site system administrator should be advised to delete this account after INCO/Acceptance. If it is known that site personnel will be assisting with acceptance testing, the site system administrator can setup those user accounts at this time if desired.

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 3.** If a full system software load was not performed (N.6.2 step 4 above), then check/set system time in IAW EHB 6-525, Table 4-76.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 4.** Exit out of the CDE and then log back in as “inco”. Ensure that window prompt reflects correct site name. For example, at the Oklahoma City site, the prompt should have “mscf-ktlx” near the beginning. If site name is incorrect, the processor must be fully reloaded IAW Table 4-51 of EHB 6-525.
- STEP 5.** Install MSCF adaptation data if not just previously done as part of a full system load on-site. (See Table G.3-1). Ensure that you log out and back into the CDE after installing the adaptation data.
- STEP 6.** Perform steps 35 and 36 at EHB 6-525 Table 4-53 at this time.

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 7.** Verify if an EPSS ICON is displayed at the far left on the CDE Control Panel (ICON appears as a RDA tower and shelter with a “?” added). If not displayed, enter su<CR> and then the root password for root access. Perform steps 28 through 33 of EHB 6-525, Table 4-53. Exit out of the CDE and then log back in as “inco”. The EPSS ICON should now be displayed on the Control Panel.

#### N.6.4 Applications-Level Checks

#### NOTE

**Do not proceed unless Attachment F and H.1. RPGPCA Tests are completed.**

The checks within this section should finalize the initial checkout of the Local MSCF. If checks reveal a possible external cable problem or a component configuration problem particular to the Local MSCF, specific guidance will be provided to check cables or reconfigure the component. For all other problems, refer to Attachment Q.

In all checks dealing with an MSCF Display or the RPG applications functionalities as used at the MSCF workstation (including an RPG HCI), the checks within this section basically replicate what was done during RPGPCA Checkout Tests (Section H.1.7). However, Section H.1.7 contains more information on assessing and correcting possible failures and configuration problems. In this section, checks will mainly be done just to verify that the same capabilities exist at an MSCF Workstation.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**N.6.4.1 MSCF Display and Power Control Checks**

- STEP 1.** When logging into the CDE at an MSCF as a normal user (e.g., as “inco” in N.6.3, STEP 3.), a Master System Control Functions display (called MSCF Display) should auto-start after approximately 30 seconds. If it did not, enter mscf &<CR> at a CDE terminal window. Note the link indicators at the bottom of the MSCF Display. All link indicators should be green, assuming all RPGPCA requirements are completed and all external cables are connected.
- STEP 2.** On the MSCF Display, click the Power Control button. When the power control window opens, note that the following names are shown in the following order from right to left:
- RPG**
  - LAN**
  - Router**
  - Comm Server A**
  - RDA/RPG Gateway**
  - BDDS**
  - Comm Server B**
  - Comm Server C**

**NOTE**

Names should have already been officially verified during RPGPCA Checkout Tests (to verify power administrator is correctly configured).

- STEP 3.** Click on the RDA/RPG Gateway outlet (highlights). Click Turn off and then Yes when prompted. Note that the outlet color turns to red. Click on the RDA/RPG Gateway outlet again (highlights). Click Turn on and then Yes when prompted. Note that the outlet color turns back to green. During these actions, note if applicable trap log messages are observed in the MSCF Display “Hardware Status/Warnings” area.
- STEP 4.** Click on the Comm Server A outlet (highlights). Click Reboot and then Yes when prompted. Note that the outlet color turns to red for five seconds and then turns back to green. During these actions, note if applicable trap log messages are observed in the MSCF Display “Hardware Status/Warnings” area. Click Close on the Power Control window to close it.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 5. On the MSCF Display, click on Comms Status. Note the following device names for the Cisco Switch:**

|     | <u>Device Name</u> | <u>Port</u>      |
|-----|--------------------|------------------|
| NWS | RPG                | FastEthernet0/1  |
|     | Printer            | FastEthernet0/2  |
|     | Router             | FastEthernet0/3  |
|     | To BDDS            | FastEthernet0/4  |
|     | RDA/RPG Gateway    | FastEthernet0/6  |
|     | UPS                | FastEthernet0/8  |
|     | Masterswitch       | FastEthernet0/9  |
|     | From BDDS          | FastEthernet0/12 |
|     | BDDS Client 1      | FastEthernet0/13 |
|     | BDDS Client 2      | FastEthernet0/14 |
|     | BDDS Client 3      | FastEthernet0/15 |
|     | BDDS Client 4      | FastEthernet0/16 |
|     | Comm Server A      | FastEthernet0/17 |
|     | Comm Server B      | FastEthernet0/18 |
|     | Comm Server C      | FastEthernet0/19 |
|     | Test_Port          | FastEthernet0/24 |

**NOTE**

**Names should have already been officially verified during RPGPCA Checkout Tests (to verify Cisco Switch is correctly configured).**

**STEP 6. Click on the down-arrow for the “device” pull-down menu on the Comms Status window, then click on Cisco Router. Note the following device names for the Cisco Router:**

|     | <u>Device Name</u> | <u>Port</u>     |
|-----|--------------------|-----------------|
| NWS | lan_switch         | FastEthernet0/0 |
|     | local_mscf         | FastEthernet0/1 |
|     | loopback_test      | Serial2/0       |
|     | loopback-port      | Serial2/7       |

**NOTE**

**Names should have already been officially verified during RPGPCA Checkout Tests (to verify Cisco Router is correctly configured).**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 7. Close the Comms Status window.**

**STEP 8. On the MSCF Display, click on the BDDS HCI button. Observe that the BDDS HCI opens and the BDDS Status indicates “Active”. Close the BDDS HCI.**

**N.6.4.2 RPG HCI, RPG Applications Software, and Wideband Checks**

**STEP 1. On the MSCF Display, click on the RPG HCI button. Verify that an RPG HCI displays.**

**STEP 2. Note the Wideband Link indication between the RDA and RPG containers. Normal indications will either show three white links (RDA in Standby) or three green links (RDA in Operate).**

**STEP 3. Verify that the RPG Container is green. If it is red, click on Status in the RPG container and troubleshoot Maintenance Required (MR) or Maintenance Mandatory (MM) alarm.**

**STEP 4. Click on the three wideband links between the RDA and RPG containers. On the RDA/RPG Interface Control/Status window, click on Disconnect and Yes when prompted. Verify the wideband link state changes to “Disconnected HCI” in yellow. Click on Connect and Yes when prompted. Verify the wideband link state changes to “Connected”. Close the RDA/RPG Interface Control/Status window.**

**STEP 5. If the RDA is in Operate (green links), place it into Standby as follows:**

- a. Click on Control in the RDA container.**
- b. On the RDA Control/Status window, click on Standby and Yes when prompted.**
- c. If “Standby” can not be selected because the RDA is in Local Control, ask the site technicians for assistance in Enabling Remote Control (ENRC) at the RDA.**
- d. Close the RDA Control/Status window.**

**STEP 6. If the RDA is in Standby (white links), place it into Operate as follows:**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- a. **Click on Control in the RDA container.**
- b. **In the RDA Control/Status window, click on Operate and Yes when prompted.**
- c. **If “Operate” can not be selected because the RDA is in Local Control, ask the site technicians for assistance in Enabling Remote Control (ENRC) at the RDA.**
- d. **Close the RDA Control/Status window.**

Leave RDA in Operate.

#### N.6.4.3 Archive III Check

- STEP 1. On the RPG HCI, click on the Archive Products block below the RPG container. Note if the top status indicator on the Archive III Control/Status window indicates “Idle” or “Active”. If it indicates “Idle”, proceed to step 3.**
- STEP 2. On the Archive III Control/Status window, verify if Products and/or Status is in a Record state (Active). If Active, click on the Stop radial button for that item and click Yes when prompted. Do this for both functions if both were Active.**
- STEP 3. On the Archive III Control/Status window, click on Products Record radial button and then click Yes when prompted. Note that the top Status indicator changes to Active. Note that the “Auto Products” indicator also indicates Active in the Archive III Status area.**
- STEP 4. On the Archive III Control/Status window, click on Status Record radial button and then click Yes when prompted. Note that the “Auto Status” indicator in the Archive III Status area indicates Active (at least temporarily). Close the Archive III Control/Status window.**

#### N.6.4.4 MLOS FAS Check (NWS MLOS Sites Only)

- STEP 1. On the RPG HCI, click on the MLOS box to the right of the tower. Note that the MLOS Status window displays.**
- STEP 2. On the MLOS Status window, verify that the Alarm Channel Status area of the window is green and that at least two Stations are shown (rows of blocks).**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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#### N.6.4.5 Miscellaneous Applications Window Checks

This paragraph will only discuss minimal checks of some of the more important maintenance-orientated applications windows. Other windows can be brought up and observed as desired.

- STEP 1.** Click on the Status button in the RPG Container. Note that the RPG Status window opens and status messages are indicated in the System Log Messages area. Close the Status window.
- STEP 2.** Click on the RDA Performance Data button on right of RPG HCI. On the RDA Performance Data menu, click on a couple of RDA sub-functional areas to verify if data is displayed. Close windows.
- STEP 3.** Click on Alarms in the RDA container and verify that the RDA Alarms window is displayed (actual RDA alarms may or may not be present at this time). Close the RDA Alarms window.
- STEP 4.** Click on the Archive Base Data block below the RDA container. In the Archive II window, verify if the Current Archive II Status is “Record”. If not, continue with step a.
  - a.** Ensure Archive II is at an “Installed” status, in the Archive II window, click Record, then click Activate in the Record Base Data window and Yes when prompted. Verify that the Current Archive II Status goes to “Check Label”, “Fast Forward”, “Loaded” (could take a minute or two), and then “Record” at the beginning of the next VCP. Leave Archive II in a Record state. If commands are accepted but the Archive II unit does not respond correctly, ask site technicians to check the RDA Archive II unit to make sure it is ready for recording. Close the Archive II window.

#### N.6.4.6 Printer Check

##### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 1.** At a MSCF terminal window, enter ping printer<CR>. A response of “printer is alive” should be observed. If not:
- a. Verify UD79A1 printer is setup correctly IAW EHB 6-525, Section 6-6, paragraph 6-6.22.
  - b. Check connectivity of external cable W332.
  - c. Verify connectivity of RPGPCA internal cable 70/170W202.
- STEP 2.** On the displayed RPG HCI, click on Status in the RPG container.
- STEP 3.** On the RPG Status window, click Print Log Messages.
- STEP 4.** On the Print RPG Log Messages window, deselect “Print All Messages”, type “4Ø” into the “Print \_\_\_\_ messages” block, and then click Print. After the printer warms up and the data is processed (could take up to 10 minutes), verify that the messages are printed to the printer. Verify that the printer is in a Warm-up mode (printer front panel), continue with the Local MSCF checkout, and retrieve the test print later.

#### N.6.5 MSCF Jaz Drive Check

Perform Jaz Drive check IAW with Table N.6.5-1

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table N.6.5-1 MSCF Jaz Drive Check**

| Step | Action  | Response/Comments  |
|------|---|--|
| 1    | Enter <b>su&lt;CR&gt;</b> and the root password to become a Superuser (# prompt) on the MSCF                                    | The # prompt appears and the user is in Superuser mode.  |
| 2    | Enter:<br><b>mount /dev/dsk/c1t3d0s2 /jaz&lt;CR&gt;</b>   | Mounts the Jaz disk cartridge in the Jaz disk drive to the /jaz mount point and displays a current directory listing for the disk cartridge. If an error occurs (either mount error or permission denied error), the Jaz Disk drive is not functioning correctly and this procedure is complete. |
| 3    | In the terminal window at the # prompt, enter:<br><b>mount&lt;CR&gt;</b>  | Verify that the last line shows /jaz is mounted. If it is not mounted, the Jaz Disk drive is not functioning correctly and this procedure is complete  |
| 4    | In the terminal window at the # prompt, enter:<br><b>cp /etc/hosts /jaz&lt;CR&gt;</b>   | A backup copy of the hosts file on the Jaz disk cartridge is made. A # prompt will return if the copy was successful and no write errors should be noted. If not returned to a # prompt or write errors are noted, the Jaz disk drive is not functioning correctly.                              |
| 5    | In the terminal window at the # prompt, enter:<br><b>ls -lrt /jaz&lt;CR&gt;</b><br>(-l is the letter el, not the number “one”.) | Displays a directory listing of the /jaz directory with the most recent files listed at the bottom. The “hosts” file should be the last entry.   |
| 6    | In the terminal window at the # prompt, enter:<br><b>umount /jaz&lt;CR&gt;</b>  | Unmounts the Jaz disk cartridge.   |
| 7    | Enter <b>exit&lt;CR&gt;</b> to return to a normal user prompt   | Normal system prompt returns and user is no longer Superuser..   |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## N.6.6 Dial Modem Setup and Test

Step 1 is performed to ensure the dial modem card in the MSCF processor is setup correctly. If there is a dial line connected to the modem card, Step 2 is performed to ensure the modem does answer a call correctly.

**STEP 1. Perform the modem setup procedure in the following table.**

**Table N.6.6-1 MSCF Dial Modem Setup**

| STEP | ACTION/PROCEDURE  | RESPONSE/COMMENTS   |
|------|---|---|
| 1    | At a normal user prompt, enter:<br><b>su&lt;CR&gt;</b><br>and then<br><b>root_password&lt;CR&gt;</b> at the Password:<br>prompt. If already at a Superuser level,<br>then proceed to the next step. | Use the root password established earlier<br>during the processor setup procedure.  |
| 2    | At the # prompt, enter:<br><b>/etc/init.d/ppp stop&lt;CR&gt;</b>  | If the Solstice PPP is already running, this<br>stops the PPP so that communication to<br>the modem can be established.   |
| 3    | At the # prompt, enter:<br><b>tip -9600 /dev/cua/d&lt;CR&gt;</b> .<br><br>Feedback: connected   | Establishes a Terminal Emulation<br>Program (tip) session to the modem. This<br>will allow the user to set further modem<br>options using a Hayes-compatible AT<br>command set. |
| 4    | Enter:<br><b>at &lt;CR&gt;</b>  | The modem should respond with an "ok".  |
| 5    | Enter:<br><b>at&amp;f0&lt;CR&gt;</b><br><b>ats0=1&lt;CR&gt;</b>   | Selects the default option set and sets the<br>modem to answer on ring 1.   |
| 6    | Enter:<br><b>at&amp;w&lt;CR&gt;</b>   | Saves the settings to profile 0 which is<br>the default option set.   |
| 7    | Enter ~. ("tilde", "dot" with no <CR>)<br><br>Feedback: EOT   | This is the escape sequence for ending a<br>tip session. If not returned to a prompt,<br>enter the escape sequence again.   |
| 8    | At the # prompt, enter:<br><b>sync&lt;CR&gt;</b><br><b>init 6&lt;CR&gt;</b>   | Syncs the file system and reboots the<br>system. Solstice PPP will restart with the<br>modem setting in place.  |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 2.** If there is a dial line connected to the MSCF dial modem card, contact the ROC Hotline (800-643-3363), verify that the Hotline has the correct phone number for that line, and ask them to test Remote MSCF dial-in to this MSCF. Also, provide the Hotline the remote\_mscfserver password set using Table 4-53, steps 35 and 36. Ask the Hotline to call back with the results. Inform the Hotline that they should also verify/correct the authorized dial-in users on the Product Distribution Comms Status (PDCS) window. If a dial line is not available, the Hotline should inform the INCO team of any dial-in user discrepancies. These will need to be documented as a site discrepancy on the acceptance documentation and corrected after-the-fact. This should also be discussed as part of Section H.6 requirements prior to the Operational Assessment Test. If the MSCF dial modem failed to answer, ask site technicians with assistance in verifying that a good dial line exists at the connection point to the MSCF dial modem card, and then re-verify the phone number.

If problems still exist, troubleshoot as follows (can be moved to Day 3):

Step 1. If possible, try an alternate dial line and phone number.

Step 2. Re-accomplish Table N.6.6-1 setup procedure.

Step 3. If a known good dial line exists and the modem does not answer or data transfer problems occur (e.g., unexpected disconnects), request a replacement MSCF processor through the Hotline.

## **N.7 Formal Acceptance**

Formally turnover MSCF to DOC staff as appropriate.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## Attachment O: Distant MSCF Installation

When the MSCF is distant, the following two configurations exist.

**DOD Collocated RDA/RPG:** For DOD systems, the Distant MSCF has a dedicated modem link from the MSCF standalone modem, UD71A5, to the Router, UD70A2, in the RPGPCA. The Router provides a serial (out of bandwidth) connection to the Power Administrator. A TCP/IP (in bandwidth) connection is also provided by the Router to the LAN.

### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

Reference the EHB 6-525, Foldout 7-2, Sheet 2, for a DOD MSCF Interconnectivity Diagram

**DOT Collocated RDA/RPG.** For DOT systems, the Distant MSCF has a dedicated modem link from the MSCF standalone modem, UD71A5, to the Router, UD70A2, via the Relay Box. The Relay Box has a dedicated link to a dedicated-port modem in both RPGs. The RPG channel being utilized is controlled by the operator. The selected RPG channel's Router provides a serial (out of bandwidth) connection to the Power Administrator. A TCP/IP (in bandwidth) connection is also provided by the Router to the LAN.

Reference the EHB 6-525, Foldout 7-2, Sheet 3, for a DOT MSCF Interconnectivity Diagram

### O.1 Go to MSCF Location

The MSCF for most DOD and DOT sites are located in a remote DOC NWS Forecast Office. Travel from the RPG location to the MSCF will be required for these DOD and DOT sites.

### O.2 Remove Remote UCP Equipment

The Remote Unit Control Position (UCP) equipment will be replaced by the distant Master System Control Function (MSCF) and must be removed prior to installation of the MSCF.

After the removal of the UCP equipment, all items which will be disposed of will be turn over to the local site property manager. The local site property manager will dispose of these items IAW their agency's current policy.

DOD may have a RRRAT processor (UD34A9) and monitor (UD34A10) as a UCP at a NWS site, if so this equipment will be returned to NRC for reuse. Additional details are provided in section O.8 below.

All CDT-100 UCPs will be turned over to local site property manager for disposal. The local site property manager will dispose of these items IAW their agency's current policy.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**NOTE**

**In some cases, the UCP equipment may not be installed or mounted on the original UCP table. In this case, the new MSCF equipment will be “placed” in the same location as the present UCP equipment.**

**NOTE**

**An RRRAT PC will probably be in use at the UCP rather than a CDT-100 terminal.**

**WARNING**

**DO NOT damage or discard UCP equipment until RPG (MSCF) passes acceptance testing.**

O.2.1 Remove the Dedicated Port Modem UD27 as required

Reference Drawing 1214559, Sheets 3,4,10,11, or 18 through 21.

One technician is required for this procedure.

Equipment and Tools Required:

- a. Screwdriver sets, flat-tip and phillips-tip
- b. ESD Component Handling Kit
- c. Wrench set, combination

Initial Conditions/Preliminary Setup:

- a. For a DOD system, refer to Figure 1-2.3 of the EHB 6-520. Refer to Figure 1-2.4 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for equipment location.
- b. For an FAA redundant system, see Figure 1-2.4 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) to locate UD27 at remote UCP

**NOTE**

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

- STEP 1. Place the power switch on the back of the modem to the OFF position to remove power. See Figure 6-5.36 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy).**
- STEP 2. Disconnect modem AC power cable, located at the back, from the source.**
- STEP 3. Disconnect the leased line from the back of the modem unit. These will be reused for installation of the MSCF modem UD71A5.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 4. Disconnect the DTE cable from the back of the modem using the proper screwdriver.**

**STEP 5. Remove the bracket screws and the holding brackets**

**STEP 6. Remove the modem and set aside.**

#### O.2.2 Remove the Statistical Multiplexer UD26

Reference Drawing 1214559, Sheets 3,4,10,11, or 18 through 21.

Two technicians are required for this procedure.

Equipment and Tools Required:

- a. Screwdriver sets, flat-tip and phillips-tip
- b. ESD Component Handling Kit
- c. Wrench set, combination

Initial Conditions/Preliminary Setup:

Locate the Statistical Multiplexer UD26. Refer to Figures 1-2.3 or 1-2.4 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for equipment locations for installation procedures.

#### **NOTE**

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

**STEP 1. Place ON/OFF switch at rear of STATMUX to OFF position.**

**STEP 2. Disconnect all cables from the rear of the STATMUX using the proper screwdriver.**

**STEP 3. While another technician supports the unit, remove screws, nuts, and washers from the mounting straps using the proper screwdriver and wrench. Set unit aside.**

#### O.2.3 Remove the Remote UCP Terminal UD24 (CDT-100)

#### **NOTE**

**If a RRRAT is installed at the UCP position, proceed to section O.2.4.**

Reference Document 1214559, Sheets 10 or 11.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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One technician is required for this procedure

Equipment and Tools Required:

1. Screwdriver set, flat-tip
2. Screwdriver set, phillips-tip

Initial Conditions/Preliminary Setup:

Refer to Figure 1-2.3 or 1-2.4 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for equipment location.

#### NOTE

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

- STEP 1.** Place power switch at lower right corner of the front of terminal to the OFF position. The power switch may be behind a WSR-88D information frame that is sometimes attached to the front of the UCP terminal.
- STEP 2.** Loosen eight screws on mounting hardware at terminal base.
- STEP 3.** Remove mounting hardware from terminal base.
- STEP 4.** Disconnect AC power cord at back of terminal.
- STEP 5.** Disconnect keyboard connector at left side of terminal base.
- STEP 6.** Disconnect RS-232 cable from SES 1-EIA at back of terminal.
- STEP 7.** Disconnect RS-232 cable from SES 2-AUX at back of terminal.
- STEP 8.** Remove terminal and keyboard, and set aside.

#### O.2.4 Remove the RRRAT

If a CDT-100 was installed at the UCP position, proceed to section O.2.5.

Reference Drawing 1214559, sheets 3, 4, or 18 through 21.

Equipment and Tools Required:

1. Screwdriver set, flat-tip
2. Screwdriver set, phillips-tip

Initial Conditions/Preliminary Setup: None.

- STEP 1.** On both the Applications and Console windows on the RRRAT display, click the “X” in the upper-right corner and then click “Yes” to shutdown these functions.
- STEP 2.** On the Windows 95/98 desktop, click the Start button (bottom- left) \*Shutdown \*Shutdown the Computer and then click “Yes” to confirm. This should power-off the processor.
- STEP 3.** Disconnect the monitor video cable at the back of the RRRAT processor and also disconnect the monitor power cable at the surge suppressor assembly or power strip outlet. Cut tie- wraps as necessary to free up cables and remove monitor and associated video and power cables. Set the monitor aside for relocation or disposition.
- STEP 4.** Disconnect the remaining cables at the back of the RRRAT processor and also disconnect the processor power cable at the surge suppressor assembly or power strip outlet. Cut tie- wraps as necessary to free up cables and remove the processor and power cable.
- STEP 5.** Remove the RRRAT processor, keyboard, and mouse; set aside for relocation or disposition.

#### O.2.5 Remove the Remote Line Printer UD29

Reference Drawing 1215188

One technician is required for this procedure

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup:

Refer to Figure 1-2.4 of the EHB 6-520 WSR–88D RPG Maintenance Manual (Legacy) for equipment location.

#### NOTE

**Read paragraph 6-5.2 of the EHB 6-520 WSR–88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

- STEP 1.** Place Line Printer power switch to the OFF position.
- STEP 2.** Disconnect AC power cord at back of the Remote Line Printer.
- STEP 3.** Disconnect any remaining cable(s) connected to the back of the Remote Line Printer.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 4. Remove the Remote Line Printer and set aside.****O.2.6 Disconnect/Remove External Communications Cables**

External cables from the Remote UCP must be located, identified and disconnected. Some cables will be re-labeled and reused. Other cables will be removed and replaced by new cables

Locate and disconnect the external cables identified in Table O.2.6-1 or O.2.6-2  
(Refer to EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy Systems), FO7-1.4 Radar Product Generator Group (RPG), ICD, Sheet 1 of 2)

Some DTE cables have already been disconnected during previous sections. If cables are to be reused, do not remove the cable. New cable labels should be provided for reused cables.

**Table O.2.6-1 Disconnect Remote UCP External Cables (DOD UCP)**

| From                              | Cable ID        | To                             | Connection | Disposition |
|-----------------------------------|-----------------|--------------------------------|------------|-------------|
| Telco                             | W220***         | UD27 Modem<br>Leased Line      | TELCO      | Reuse*      |
| UD27 DTE                          | W221            | UD26 Stat Mux<br>Port          | DTE        | Remove      |
| UD26 CH2                          | W900 or<br>W222 | UD34CP1                        | DTE        | Remove      |
| UD26 CH1                          | W901 or<br>W223 | UD34A12                        | DTE        | Remove      |
| UD34A9A3 Dial Modem<br>Telco Jack | 34W902          | Surge Suppressor<br>UD34E1 OUT | TELCO      | Remove**    |
| UD26 CH3                          | W224            | Printer UD29                   | DTE        | Remove      |

\* This cable will be reconnected to the new MSCF Modem UD71A5 when it is installed.

\*\* This cable may not be installed or used. If a new cable 71W902 cable is not provided, this cable could be used in its place (with new labels if provided) if it is available.

\*\*\*This circuit may be arranged with W227, W228, and the UD34A6 Surge Suppressor as shown in Table O.2.6-2. If so, follow guidance as indicated in Table 0.2.6-2.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table O.2.6-2 Disconnect Remote UCP External Cables (FAA UCP)**

| <b>From</b>  | <b>Cable ID</b> | <b>To</b>               | <b>Connection</b> | <b>Disposition</b> |
|--------------|-----------------|-------------------------|-------------------|--------------------|
| Telco Demarc | W228            | UD34A6 Surge Suppressor | TELCO             | Reuse              |
| UD34A6       | W227            | UD27 Modem Leased Line  | TELCO             | Reuse**            |
| UD27 DTE     | W221            | UD26 Stat Mux TRUNK 1   | DTE               | Reuse**            |
| UD26 PORT1   | W241            | UD33 Dual A/B Switch B1 | DTE               | Remove             |
| UD26 PORT2   | W242            | UD33 Dual A/B Switch B2 | DTE               | Remove             |
| UD26 PORT3   | W243            | UD33 Dual A/B Switch A1 | DTE               | Remove             |
| UD26 PORT4   | W244            | UD33 Dual A/B Switch A2 | DTE               | Remove             |
| UD26 PORT5   | W245*           | UD34A5 A/B Switch B     | DTE               | Remove             |
| UD26 PORT6   | W246*           | UD34A5 A/B Switch A     | DTE               | Remove             |
| UD33 C2      | W237            | UD34CP1                 | DTE               | Remove             |
| UD33 C1      | W238            | UD34A12                 | DTE               | Remove             |
| UD34A5 C     | W224*           | Printer UD29*           | DTE               | Remove             |

\* Site dependent.

\*\* This cable will be reconnected to the new MSCF Modem UD71A5 when it is installed.

\*\*\* A new cable 71W221 may be provided. If so, remove this cable.

O.2.7 Remove the Dual A/B Switch UD33 which is only present in DOT redundant systems.

Reference Drawing 1214559, Sheet 5

One technician is required for this procedure.

Equipment and Tools Required: Screwdriver set, flat-tip

Initial Conditions/Preliminary Setup:

Locate Dual A/B Switch UD33 at the Remote UCP Workstation UD34. Refer to Figure 1-2.4 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for equipment location.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**NOTE**

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

**STEP 1.      Locate and unscrew two flat-tip screws securing each of the six connectors to rear of switch. Remove all connectors.**

**STEP 2.      Remove screws, and washers that secure switch to workstation using the proper screwdriver and set the switch aside.**

O.2.8 Remove the Printer A/B Switch UD34A5 which is present only in DOT redundant systems that contain a printer UD29.

Reference Document 1214559, Sheets 10 and 11.

One technician is required for this procedure.

Equipment and Tools Required: Screwdriver set, flat-tip

Initial Conditions/Preliminary Setup:

Locate Printer A/B Switch UD34A5 at the Remote UCP Workstation UD34. Refer to Figure 1-2.4 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for equipment location.

**NOTE**

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

**STEP 1.      Locate and unscrew two flat-tip screws securing each of the three connectors to the rear of the switch. Remove all connectors.**

**STEP 2.      Remove screws, and washers that secure switch to workstation using the proper screwdriver and set the switch aside.**

O.2.9 Remove the Analog A/B Switch UD34A7 which is present only in DOT redundant systems that contain dual remote UCPs.

**NOTE**

**In most cases, this switch will not be located at the Remote UCP but rather at the FAA office or in the shelter**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Reference Drawing 1214559, Sheets 13 and 14

One technician is required for this procedure.

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup:

Locate Analog (TELCO) A/B Switch UD34A7 at the Remote UCP No. 1 Workstation UD34. Refer to Figure 1-2.4 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for equipment location. The A/B switch is located only in UCP No. 1.

#### NOTE

**Read paragraph 6-5.2 of the EHB 6-520 WSR-88D RPG Maintenance Manual (Legacy) for special considerations for removal procedures.**

**STEP 1. Tag and unplug TELCO cable jacks from the A, B and I/O ports at the rear of the A/B switch.**

**STEP 2. Pull the A/B switch off the workstation shelf, it is secured by velcro.**

#### O.2.10 Relocate RRRAT

This will only be performed at Vandenberg AFB, (possibly at Keesler AFB Maintenance System,) and DOD overseas sites. DOD RRRATs at NWS offices will not be relocated.

**STEP 1. Coordinate with site personnel and relocate the original UCP RRRAT to their preferred location. Preferably, this will be within 100 feet of the MSCF location. Two AC power outlets must be available at this location.**

**STEP 2. Set the monitor on top of the RRRAT processor and reconnect processor/monitor power cables. Reconnect keyboard, mouse, and monitor video cables at the back of the processor.**

**STEP 3. Plug processor and monitor AC power cables into AC outlets and power the processor back on with the button at the front of the processor. The processor should boot up to Windows 95/98.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**O.2.11 Reconfigure RRRAT**

This will only be performed at Vandenberg AFB and DOD overseas sites. DOD RRRATs at NWS offices will not be relocated or reconfigured.

- STEP 1.**      **Right click on the minimized PCAnywhere button on the task bar and select Close.**
- STEP 2.**      **From the Windows 95 Start Menu, select Programs \* PCAnywhere32 \* PCAnywhere.**
- STEP 3.**      **In the PCAnywhere window, click on Be A Host PC.**
- STEP 4.**      **Click on the Modem icon, then select File \* Properties.**
- STEP 5.**      **In the MODEM Properties menu, select Settings.**
- STEP 6.**      **In the Host Startup field, uncheck Launch with Windows and then click OK. If prompted for a password, site technicians must enter the site-specific RRRAT password. Changes take affect when password is entered.**
- STEP 7.**      **Close PCAnywhere.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**O.3 Set up Distant MSCF Workstation****O.3.1 Drill holes in table and add T-nuts**

See Attachment N Section N.3.1

**O.3.2 Install MSCF Processor (SUN ULTRA 5) UD71A1**

See Attachment N Section N.3.2

**O.3.3 Install MSCF Monitor (SUN) UD71A2**

See Attachment N Section N.3.3

**O.3.4 Install MSCF Keyboard (SUN) UD71A3 and MSCF Mouse (SUN) UD71A4**

See Attachment N Section N.3.4

**O.3.5 Install MSCF Standalone Modem (CODEX 3261 FAST) UD71A5**

One technician is required for this procedure.

Equipment and Tools Required: philips-tip screwdriver

Initial Conditions/Preliminary Setup. (Refer to Diagram 2300023 for part location.)

**STEP 1. Ensure the power switch at the back of the modem is in the Off position.**

**STEP 2. Ensure that DIP switches 1 and 2 at the back of the new modem are in the On (down) position. DIP switches 3 through 6 are in the Off (up) position.**

**STEP 3. Place the MSCF Standalone Modem UD71A5 in location with mounting brackets.**

**STEP 4. Connect the DTE cable (UD71W221) to the back of the modem.**

**STEP 5. Connect the leased line cable (DOD: W220, DOT: W227) to the back of the modem.**

**STEP 6. Connect the AC power cord (71W89) to the back of the modem.**

**O.3.6 Install MSCF Backup Storage Device (IOMEGA JAZ) UD71A6**

See Attachment N Section N.3.5

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**O.3.7 Cable Tie-Wrap**

See Attachment N Section N.3.6.

**O.3.8 Install MSCF Color Printer (XEROX PHASER 750) UD79A1**

See Attachment N Section N.3.7

**O.4 Connect/Re-label Cables****O.4.1 Procedures to Connect External Communication Cables****NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

Locate and connect the external cables identified in Table O.4.1-1 and O.4.1-2 (Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), FO7-2 WSR-88D System Interconnectivity,(NWS with Remote RDA Terminal), Sheet 2 of 3 and Sheet 3 of 3)

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table O.4.1-1 Connect Distant MSCF External Cables (DOD)**

| <b>From</b>   | <b>Cable ID</b> | <b>To</b>                  | <b>Connection</b>  |
|---|-----------------|----------------------------|--------------------|
| Phone Demarc*   | W220*****       | Dedicated Modem UD71A5     | Leased Line        |
| UD71A5 DTE*   | 71W221          | MSCF Processor UD71A1      | Serial Port A (J3) |
| Printer UD79A1*   | W333            | MSCF Processor UD71A1      | Ethernet Port (J2) |
| UD71CP1**   | 71W902***       | MSCF Processor UD71A1 PCI1 | Dial Modem Card    |
| UD71CP1**   | W910****        | RRRAT Processor UD34A9A3   | Plug-in Modem Card |
| Optional Dial Line from Phone Demarc or CP2 Duplex Jack | W902****        | UD71E1                     | IN                 |

\* Should already be connected at this end.

\*\* UD71CP1 is a new duplex jack that must be installed on the OUT jack of the UD71E1 Surge Suppressor assembly. Also, at this time, verify if the UD71E1 IN jack has a dial telco cable connected. The dial cable probably will not exist at any DOD MSCFs that are located at an NWS office but may exist at Vandenberg AFB or DOD overseas locations. See EHB 6-525, Figure FO7-2, Sheet 2.

\*\*\* May be provided with labels. If not, labels will be provided and it can either be made on-site or the original 34W902 cable can be reused with new labels. See EHB 6-525, Figure FO7-2, Sheet 2.

\*\*\*\* May be provided with labels. If not, labels will be provided and it will be custom made to length on-site. This will not be used except when the original RRRAT is relocated (Vandenberg AFB or DOD overseas locations, if desired) and a dial line was originally connected to UD71E1 IN (see \*\*). See EHB 6-525, FO7-2, Sheet 2.

\*\*\*\*\*This may actually be W227 as indicated in Table O.4.1-2.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table O.4.1-2 Connect Distant MSCF External Cables (FAA)**

| <b>From</b>       | <b>Cable ID</b> | <b>To</b>                   | <b>Connection</b>  |
|-------------------|-----------------|-----------------------------|--------------------|
| Surge Suppressor* | W227            | Dedicated Modem UD71A5      | Leased Line        |
| UD71A5 DTE*       | 71W221          | MSCF Processor UD71A1       | Serial Port A (J3) |
| Printer UD79A1*   | W333            | MSCF Processor UD71A1       | Ethernet Port (J2) |
| UD71E1 OUT        | W902A**         | MSCF Processor UD71A1 PCI 1 | Dial Modem Card    |

\* Should already be connected at this end.

\*\* May be provided with labels. The cable may not be available if it is determined that a dial requirement does not exist. It could not be used unless an active dial telco cable is connected to the UD71E1 IN jack.

#### O.4.2 Procedures to Re-label External Cables

At this time, the only external cables identified for re-labeling at a Distant MSCF is cable W220 and the site-optional W902 (DOD) and cables W227 and W228 (DOT). Refer to Section F.1.4.2, paragraph 4 for general guidance in removing the old labels and installing the new labels.

### O.5 Power Up

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

Use the startup procedures in Table O.5-1 below to power up the MSCF. Reference Chapter 4, Section 4.5.3 of EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems).

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Table O.5-1 MSCF Startup Procedure**

| Step   | Equipment/Location                     | Action/Procedure   | Indication/Reference  |
|--|--|--|---|
| 1  | MSCF Monitor UD71A2                    | Set the Power switch to the On position.                     | Applies power to the MSCF Monitor.  |
| 2  | MSCF Printer UD79A1                    | Set the Power switch to the On position.                     | Applies power to the MSCF Printer.  |
| 3  | MSCF Jaz Disk Drive UD71A6             | Set the Power switch to the On position.                     | Applies power to the MSCF Jaz Disk Drive.   |
| <p style="text-align: center;"><b>NOTE</b></p> <p style="text-align: center;">Step 4 applies only to the Distant MSCF configuration.</p> |  |  |   |
| 4  | MSCF Standalone Dedicated Modem UD71A5 | Set the Power switch (rear of unit) to the On (I) position.  | Applies power to the MSCF Standalone Dedicated Modem, and the LCD displays a status message.  |
| 5  | MSCF Processor UD71A1                  | Set the Power switch (rear of unit) to the Off (Ø) position. | The power up procedures must end in a state that has everything powered up except the Sun processors. This will be the initial condition of the system prior to beginning checkout and testing. |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## O.6 Distant MSCF (UD71) and Printer (UD79A1) Checkout and Testing

The ROC hotline (800-643-3363), backed by RPG engineering staff, will be available to assist via telephone.

Reference Attachment Q troubleshooting procedures to resolve problems for which specific troubleshooting guidance is not provided.

These tests are designed to provide the initial checkout of a Local MSCF. These tests will verify hardware operability, verify if all external communications links are functional and validate that correct site specific software has been loaded for all network-type components. MSCF applications software functionality will be verified; however, actual RPG applications software functionality is verified as part of the RPGPCA Checkout Tests (H.1) and subsequent system-level tests within that attachment.

### O.6.1 Assumptions

- a. All RPGPCA equipment is installed IAW Attachment F and the RPCPCA Checkout Tests are completed (Section H.1).
- b. All Distant MSCF equipment is installed and connected IAW Sections O.3 and O.4 of this attachment.
- c. All MSCF equipment is powered-on except the Sun processor. The power-on of the Sun processor will be done as part of these tests so that boot sequences can be evaluated.
- d. That all network components were configured and/or had software loaded for this specific site when built as a kit.
- e. That the Sun processor was shipped with no root password set.
- f. That all pre-inspection verifications and tests were performed IAW Attachment D.

### O.6.2 Distant MSCF Processor Boot Analysis

**STEP 1. Insert a formatted Jaz Disk cartridge into the A6 Jaz drive (reference section 13.10).**

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**NOTE**

The next steps will involve powering on the processor and monitoring the boot sequence for possible errors. Before performing these steps, locate EHB 6-525, Section 6-3, Figure 6-2 Fault Note 22 and study the “ERROR NOTES” which are listed just prior to the example of a good boot. This will help pinpoint the specific portions of the boot sequence that should be checked for possible errors.

**STEP 2.** Power on the MSCF processor with rocker switch at rear of unit.

**STEP 3.** Observe the boot sequence on the monitor. Compare boot sequence to the example provided in EHB 6-525, Section 6-3, Figure 6-2 Fault Note 22. If any boot-type problems are noted, troubleshoot using EHB 6-525 flowcharts (enter “Y” on Figure 6-2, sheet 3). If necessary, reboot processor per Fault Note 22 to evaluate corrective actions.

**NOTE**

If the Fault Note 22 error indicated a “link down” message for hme0 (ERROR NOTE 4), the most probable cause at this time is red LAN cable W333 (network connection, processor to printer) or the printer is not turned on.

**NOTE**

In this step and in many subsequent sections, some cable interconnection information is provided. When asked to troubleshoot these interconnections or to “check connectivity”, the first step should be just to check for tight connections and possibly disconnect/reconnect the cable. In many cases, this could correct the problem. This is especially true of any RJ-45 type connections and any Centronics Telco-type connections.

**STEP 4.** Locate the “Revision” (1.x) number and date annotated on the provided Open RPG Access Information List (at bottom of table) for the pre-loaded software. Compare this to the current INCO team/site software load CDs (Version [Rev] and Date). Pay particular attention to the dates. Even if the revision numbers match (e.g., “v1.113”), if the dates do not match the system must be reloaded. If newer software has been provided to the INCO team/site, then fully reload software now IAW EHB 6-525, Table 4-53.

**O.6.3 MSCF Processor Setup**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 1.** If not already set as part of a full system software load (O.6.2, Step 4 above), set a temporary root password IAW steps 21-23, 25-27, and 33 of EHB 6-525, Table 4-53. This root password will be used for the remainder of the INCO period and should be controlled on a “need to know” basis by the INCO Team Chief. The site system administrator should be provided this password and advised to reset the password after INCO/Acceptance.
- STEP 2.** Log into the CDE as root and add a temporary normal user called “inco” with a password of “test” (Attachment G, Table G.4-1). INCO personnel can use this account for all checkout and acceptance tests. The site system administrator should be advised to delete this account after INCO/Acceptance. If it is known that site personnel will be assisting with acceptance testing, the site system administrator can setup those user accounts at this time if desired.

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 3.** If a full system software load was not performed (O.6.2 step 4 above), then check/set system time in IAW EHB 6-525, Table 4-76.
- STEP 4.** Exit out of the CDE and then log back in as “inco”. Ensure that window prompt reflects correct site name. For example, at the Oklahoma City site, the prompt should have “mscf-ktlx” near the beginning. If site name is incorrect, the processor must be fully reloaded IAW Table 4-51 of EHB 6-525.
- STEP 5.** Install MSCF adaptation data if not just previously done as part of a full system load on-site. (See Table G.3-1). Ensure that you log out and back into the CDE after installing the adaptation data.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 6. Perform steps 35 and 36 at EHB 6-525 Table 4-53 at this time.**

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**STEP 7. Verify if an EPSS ICON is displayed at the far left on the CDE Control Panel (ICON appears as a RDA tower and shelter with a “?” added). If not displayed, enter su<CR> and then the root password for root access. Perform steps 28 through 33 of EHB 6-525, Table 4-53. Exit out of the CDE and then log back in as “inco”. The EPSS ICON should now be displayed on the Control Panel.**

**O.6.4 Applications-Level Checks**

**NOTE**

**Do not proceed until Attachment F and Attachment H.1 are completed.**

The checks within this section should finalize the initial checkout of the Local MSCF. If checks reveal a possible external cable problem or a component configuration problem particular to the Distant MSCF, specific guidance will be provided to check cables or reconfigure the component. For all other problems, refer to Attachment Q.

In all checks dealing with an MSCF Display or the RPG applications functionalities as used at the Distant MSCF workstation (including an RPG HCI), the checks within this section basically replicate what was done during RPGPCA Checkout Tests (Section H.1.7). However, Section H.1.7 contains more information on assessing and correcting possible failures and configuration problems. In this section, checks will mainly be done just to verify that the same capabilities exist at a Distant MSCF Workstation.

**O.6.4.1 MSCF Display and Power Control Checks**

**STEP 1. When logging into the CDE at a Distant MSCF as a normal user (e.g., as “inco” in O.6.3, STEP 3.), a Master System Control Functions display (called MSCF Display) should auto-start. If it did not, enter**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**mscf &<CR> at a CDE terminal window. Note the link indicators at the bottom of the MSCF Display. All link indicators should be green, assuming all RPGPCA requirements are completed and all external interconnections are in-place. Is so, continue to STEP 2.**

**Since a Distant MSCF link transverses a dedicated modem link, the network connectivity path to the RPGPCA is much more complicated than that used for a Local MSCF which has a direct Ethernet connection. If the MSCF Display link indicators are all red, the modem path to the RPGPCA is not functioning. Troubleshoot in the following manner:**

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- a. Check the Distant MSCF hme0 configuration IAW EHB 6-525, Section 6-3, Figure 6-2 Fault Note 31. If the configuration is incorrect (probably loaded as a Local MSCF instead of a Distant MSCF), fully reload Distant MSCF software IAW Table 4-53 of EHB 6-525.**
- b. INCO team members at both ends of the MSCF modem link should verify correct setup on the modems IAW EHB 6-525 Section 6-6 procedures. For the modem in the RPGPCA modem rack slot 21, the setup procedure is paragraph 6-6.14. For the MSCF modem (UD71A5), paragraph 6-6.18.**
- c. Check the modems to see if they indicate a physical connection (CD light lit and front panel indicates "V34 33.6"). If they do, proceed to step d. If not, troubleshoot as follows:**
  - (1) At the MSCF end, verify correct connectivity of the W220 telco cable from the MSCF A5 modem to the Telephone company demarc. (For an old UCP table that had a UCP from an FAA RDA/RPG site, this telco connection may actually go through cable W227, a surge suppressor block, and cable W228.) At the same time, ask INCO personnel at the RPGPCA site to verify**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**correct circuit connectivity of dedicated circuit 5 from the 4-RJ2DX demarc block (pins 17 through 20) to telephone company demarcation.**

- (2) Ask site technicians to contact the phone company to check the commercial dedicated circuit.**
- (3) Ask INCO personnel at the RPGPCA to check correct connectivity of internal RPGPCA cables 70/170W125 (A14A21 modem to the A25 adapter panel), 70/170W21 (A25 adapter panel to the A26 patch panel, and 70/170W22 (A26 patch panel to cabinet I/O panel J3. For DOD sites, also, check the external W46 cable from I/O panel J3 to the 4-RJ2DX demarc block. For FAA Sites, the W46 cable actually runs from the UD31 relay box J16 jack to the demarc block and there are two separate cables running from each Channel's I/O panel J3 to the UD31 relay box (W164 and W171 for UD70 and UD170 respectively).**
- d. If modems are connected but the MSCF Display still does not indicate green link indicators (valid MSCF-to-RPGPCA network connection), check correct connectivity of MSCF cable W221. At the same time, have INCO personnel at the RPGPCA check correct connectivity of the internal RPGPCA cable 70/170W265 (A2 Router serial module port 0 to the A14A21DTEA connector on the back of the modem rack).**
- e. Reboot the MSCF. At the same time, have INCO personnel at the RPGPCA reboot the Router (A2).**
- f. Have INCO personnel at the RPGPCA reseal the serial module (A2A1A2) in the Router.**
- g. If all else fails, a high probability exists that the serial module in the RPGPCA Router (A2) is defective. Replace the router.**

**STEP 2. On the MSCF Display, click the Power Control button. When the power control window opens, note that the following names are shown in the following order from right to left:**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**RPG**  
**LAN**  
**Router**  
**Comm Server A**  
**RDA/RPG Gateway**  
**Outlet 6** (or may be blank)  
**Comm Server B**  
**Comm Server C**

**NOTE**

**Names should have already been officially verified during RPGPCA Checkout Tests (to verify power administrator is correctly configured).**

**STEP 3.** Click on the RDA/RPG Gateway outlet (highlights). Click Turn off and then Yes when prompted. Note that the outlet color turns to red. Click on the RDA/RPG Gateway outlet again (highlights). Click Turn on and then Yes when prompted. Note that the outlet color turns back to green. During these actions, note if applicable trap log messages are observed in the MSCF Display “Hardware Status/Warnings” area.

**STEP 4.** Click on the Comm Server A outlet (highlights). Click Reboot and then Yes when prompted. Note that the outlet color turns to red for five seconds and then turns back to green. During these actions, note if applicable trap log messages are observed in the MSCF Display “Hardware Status/Warnings” area. Click Close on the Power Control window to close it.

**NOTE**

**On a Distant MSCF, the refresh rate on the MSCF Display Power Control window may not occur soon enough to actually see the outlet turn to red and back to green. Regardless, the trap log messages should always be observed in the “Hardware Status/Warnings” area (also color-coded red and green).**

**STEP 5.** On the MSCF Display, click on Comms Status. Note the following device names for the Cisco Switch:

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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|            | <u>Device Name</u>         | <u>Port</u>             |
|------------|----------------------------|-------------------------|
| <b>DOD</b> | <b>RPG</b>                 | <b>FastEthernet0/1</b>  |
|            | <b>Router</b>              | <b>FastEthernet0/3</b>  |
|            | <b>RDA/RPG Gateway</b>     | <b>FastEthernet0/6</b>  |
|            | <b>UPS</b>                 | <b>FastEthernet0/8</b>  |
|            | <b>Masterswitch</b>        | <b>FastEthernet0/9</b>  |
|            | <b>Comm Server A</b>       | <b>FastEthernet0/17</b> |
|            | <b>Comm Server B</b>       | <b>FastEthernet0/18</b> |
|            | <b>Comm Server C</b>       | <b>FastEthernet0/19</b> |
|            | <b>Test_Port</b>           | <b>FastEthernet0/24</b> |
| <b>FAA</b> | <b>RPG</b>                 | <b>FastEthernet0/1</b>  |
|            | <b>Router</b>              | <b>FastEthernet0/3</b>  |
|            | <b>RDA/RPG Gateway</b>     | <b>FastEthernet0/6</b>  |
|            | <b>Interprocessor Link</b> | <b>FastEthernet0/7</b>  |
|            | <b>UPS</b>                 | <b>FastEthernet0/8</b>  |
|            | <b>Masterswitch</b>        | <b>FastEthernet0/9</b>  |
|            | <b>Baytech A</b>           | <b>FastEthernet0/10</b> |
|            | <b>Baytech B</b>           | <b>FastEthernet0/11</b> |
|            | <b>Comm Server A</b>       | <b>FastEthernet0/17</b> |
|            | <b>Comm Server B</b>       | <b>FastEthernet0/18</b> |
|            | <b>Comm Server C</b>       | <b>FastEthernet0/19</b> |
|            | <b>Test_Port</b>           | <b>FastEthernet0/24</b> |

**NOTE**

**Names should have already been officially verified during RPGPCA Checkout Tests (to verify Cisco Switch is correctly configured).**

**STEP 6. Click on the down-arrow for the “device” pull-down menu on the Comms Status window, then click on Cisco Router. Note the following device names for the Cisco Router:**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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|            | <u>Device Name</u>   | <u>Port</u>            |
|------------|----------------------|------------------------|
| <b>DOD</b> | <b>bdds_router</b>   | <b>Serial0/0</b>       |
|            | <b>lan_switch</b>    | <b>FastEthernet0/0</b> |
|            | <b>distant_mscf</b>  | <b>Serial2/0</b>       |
|            | <b>loopback-port</b> | <b>Serial2/7</b>       |
| <b>FAA</b> | <b>bdds_router</b>   | <b>Serial0/0</b>       |
|            | <b>lan_switch</b>    | <b>FastEthernet0/0</b> |
|            | <b>redundant_rtr</b> | <b>FastEthernet0/1</b> |
|            | <b>distant_mscf</b>  | <b>Serial2/0</b>       |
|            | <b>loopback-port</b> | <b>Serial2/7</b>       |

**NOTE**

**Names should have already been officially verified during RPGPCA Checkout Tests (to verify Cisco Router is correctly configured).**

**STEP 7. Close the Comms Status window.**

**STEP 8. Perform this step only if there is a Remote BDDS connected off of this system (from RPGPCA) and Attachment P has been completed. On the MSCF Display, click on the BDDS HCI button. Observe that the BDDS HCI opens and the BDDS Status indicates “Active”. Close the BDDS HCI.**

O.6.4.2 RPG HCI, RPG Applications Software, and Wideband Checks

**NOTE**

**On a Distant MSCF, graphical applications can take a while to display since data is being transported across a modem link. Just click a button once and wait for the window to appear. For some windows that are large (e.g., Product Distribution Comms Status) or have imbedded logs (e.g., RPG Status, RDA Alarms), the wait time may be 30 to 45 seconds.**

**STEP 1. On the MSCF Display, click on the RPG HCI button. Verify that an RPG HCI displays.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 2.** Note the Wideband Link indication between the RDA and RPG containers. Normal indications will either show three white links (RDA in Standby) or three green links (RDA in Operate).
- STEP 3.** Verify that the RPG Container is green. If it is red, click on Status in the RPG container and troubleshoot Maintenance Required (MR) or Maintenance Mandatory (MM) alarm.
- STEP 4.** Click on the three wideband links between the RDA and RPG containers. On the RDA/RPG Interface Control/Status window, click on Disconnect and Yes when prompted. Verify the wideband link status changes to “Disconnected HCI”. Click on Connect and Yes when prompted. Verify the wideband link status changes to “Connected”. Close the RDA/RPG Interface Control/Status window.
- STEP 5.** If the RDA is in Operate (green links), place it into Standby as follows:
- a. Click on Control in the RDA container.
  - b. On the RDA Control/Status window, click on Standby and Yes when prompted.
  - c. If “Standby” can not be selected because the RDA is in Local Control, ask the site technicians for assistance in Enabling Remote Control (ENRC) at the RDA.
  - d. Close the RDA Control/Status window.
- STEP 6.** If the RDA is in Standby (white links), place it into Operate as follows:
- a. Click on Control in the RDA container.
  - b. On the RDA Control/Status window, click on Operate and Yes when prompted.
  - c. If “Operate” can not be selected because the RDA is in Local Control, ask the site technicians for assistance in Enabling Remote Control (ENRC) at the RDA.
  - d. Close the RDA Control/Status window.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Leave RDA in Operate.

#### O.6.4.3 MLOS FAS Check (NWS MLOS Sites Only)

- STEP 1.** On the RPG HCI, click on the MLOS box to the right of the tower. Note that the MLOS Status window displays.
- STEP 2.** On the MLOS Status window, verify that the Alarm Channel Status area of the window is green and that at least two Stations are shown (rows of blocks).

#### O.6.4.4 Miscellaneous Applications Window Checks

This paragraph will only discuss checks of some of the more important maintenance-orientated applications windows. Other windows can be brought up and observed as desired.

- STEP 1.** Click on the Status button in the RPG Container. Note that the RPG Status window opens and status messages are indicated in the System Log Messages area. Close the Status window.
- STEP 2.** Click on the RDA Performance Data button on right of RPG HCI. On the RDA Performance Data menu, click on a couple of RDA sub-functional areas to verify if data is displayed. Close windows.
- STEP 3.** Click on Alarms in the RDA container and verify that the RDA Alarms window is displayed (actual RDA alarms may or may not be present at this time). Close the RDA Alarms window.
- STEP 4.** Click on the Archive Base Data block below the RDA container. In the Archive II window, verify if the Current Archive II Status is "Record". If not, proceed to step b.
- a.** In the Archive II window, click Stop and Yes when prompted. Verify that the Current Archive II Status changes to "Loaded" at the start of the next VCP.
- b.** In the Archive II window, click Record, then click Activate in the Record Base Data window and Yes when prompted. Verify

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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that the Current Archive II Status goes to “Check Label”, “Fast Forward”, “Loaded” (could take a minute or two), and then “Record” at the beginning of the next VCP. Leave Archive II in a Record state. If commands are accepted but the Archive II unit does not respond correctly, ask site technicians to check the RDA Archive II unit to make sure it is ready for recording. Close the Archive II window.

#### O.6.4.5 Printer Check

**STEP 1.** At a MSCF terminal window, enter ping printer<CR>. A response of “printer is alive” should be observed. If not:

#### NOTE

When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.

- a. Verify UD79A1 printer is setup correctly IAW EHB 6-525, Section 6-6, paragraph 6-6.22.
- b. Check connectivity of red LAN cable W333 (network connection, processor to printer).

**STEP 2.** On the displayed RPG HCI, click on Status in the RPG container.

**STEP 3.** On the RPG Status window, click Print Log Messages.

**STEP 4.** On the Print RPG Log Messages window, deselect “Print All Messages”, type “50” into the “Print \_\_\_\_ messages” block, and then click Print. After the printer warms up and the data is processed (could take up to 10 minutes), verify that the messages are printed to the printer. Verify that the printer is in a Warm-up mode (printer front panel), continue with the Distant MSCF checkout, and retrieve the test print later.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## O.6.5 MSCF Jaz Drive Check

Perform Jaz Drive check IAW with Table N.6.5-1

**Table O.6.5-1 MSCF Jaz Drive Check**

| Step | Action   | Response/Comments  |
|------|--|--|
| 1    | Enter <b>su&lt;CR&gt;</b> and the root password to become a Superuser (# prompt) on the MSCF | The # prompt appears and the user is in Superuser mode.  |
| 2    | Enter:<br><b>mount /dev/dsk/c1t3d0s2 /jaz&lt;CR&gt;</b>                                      | Mounts the Jaz disk cartridge in the Jaz disk drive to the /jaz mount point and displays a current directory listing for the disk cartridge. If an error occurs (either mount error or permission denied error), the Jaz Disk drive is not functioning correctly and this procedure is complete. |
| 3    | In the terminal window at the # prompt, enter:<br><b>mount&lt;CR&gt;</b>                     | Verify that the last line shows /jaz is mounted. If it is not mounted, the Jaz Disk drive is not functioning correctly and this procedure is complete  |
| 4    | In the terminal window at the # prompt, enter:<br><b>cp /etc/hosts /jaz&lt;CR&gt;</b>        | A backup copy of the hosts file on the Jaz disk cartridge is made. A # prompt will return if the copy was successful and no write errors should be noted. If not returned to a # prompt or write errors are noted, the Jaz disk drive is not functioning correctly.                              |
| 5    | In the terminal window at the # prompt, enter:<br><b>ls -lrt /jaz&lt;CR&gt;</b>              | Displays a directory listing of the /jaz directory with the most recent files listed at the bottom. The "hosts" file should be the last entry.   |
| 6    | In the terminal window at the # prompt, enter:<br><b>umount /jaz&lt;CR&gt;</b>               | Unmounts the Jaz disk cartridge.   |
| 7    | Enter <b>exit&lt;CR&gt;</b> to return to a normal user prompt                                | Normal system prompt returns and user is no longer Superuser..   |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## O.6.6 Dial Modem Setup and Test

Step 1 is performed to ensure the dial modem card in the MSCF processor is setup correctly. If there is a dial line connected to the modem card, Step 2 is performed to ensure the modem does answer a call correctly.

**STEP 1. Perform the modem setup procedure in the following table.**

**Table O.6.6-1 MSCF Dial Modem Setup**

| STEP | ACTION/PROCEDURE  | RESPONSE/COMMENTS   |
|------|---|---|
| 1    | At a normal user prompt, enter:<br><b>su&lt;CR&gt;</b><br>and then<br><b>root_password&lt;CR&gt;</b> at the Password:<br>prompt. If already at a Superuser level,<br>then proceed to the next step. | Use the root password established earlier<br>during the processor setup procedure.  |
| 2    | At the # prompt, enter:<br><b>/etc/init.d/ppp stop&lt;CR&gt;</b>  | If the Solstice PPP is already running, this<br>stops the PPP so that communication to<br>the modem can be established.   |
| 3    | At the # prompt, enter:<br><b>tip -9600 /dev/cua/d&lt;CR&gt;</b> .<br><br>Feedback: connected   | Establishes a Terminal Emulation<br>Program (tip) session to the modem. This<br>will allow the user to set further modem<br>options using a Hayes-compatible AT<br>command set. |
| 4    | Enter:<br><b>at &lt;CR&gt;</b>  | The modem should respond with an "ok".  |
| 5    | Enter:<br><b>at&amp;f0&lt;CR&gt;</b><br><b>ats0=1&lt;CR&gt;</b>   | Selects the default option set and sets the<br>modem to answer on ring 1.   |
| 6    | Enter:<br><b>at&amp;w&lt;CR&gt;</b>   | Saves the settings to profile 0 which is<br>the default option set.   |
| 7    | Enter ~. ("tilde", "dot" with no <CR>)<br><br>Feedback: EOT   | This is the escape sequence for ending a<br>tip session. If not returned to a prompt,<br>enter the escape sequence again.   |
| 8    | At the # prompt, enter:<br><b>sync&lt;CR&gt;</b><br><b>init 6&lt;CR&gt;</b>   | Syncs the file system and reboots the<br>system. Solstice PPP will restart with the<br>modem setting in place.  |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 2.** If there is a dial line connected to the MSCF dial modem card, contact the ROC Hotline (800-643-3363) and ask them to test Remote MSCF dial-in to this MSCF. Ask the Hotline to call back with the results. If the MSCF dial modem failed to answer, ask site technicians with assistance in verifying that a good dial line exists at the connection point to the MSCF dial modem card, and what the phone number is. Verify that the Hotline has the correct phone number for that line.

## **O.7 Formal Acceptance**

Formally turnover MSCF to DOD or DOC staff as appropriate.

**For DOD sites:** Use the provided AFTO Form 217 with attached instructions for completion. This form and instructions will be provided to site personnel by INCO Team. This form also serves as receipt of accountable property.

**For DOC sites:** A CD-509 will be provided by the INCO Team and completed by site property custodian.

## **O.8 Turn DOD RRRAT Processor (UD34A9) and Monitor (UD34A10) over to local DOC site personnel for packing and shipping to NRC.**

If the DOD RRRAT equipment is located in a NWS office, it will be excessed and returned to NRC. (Provide the MSCF Processor box and its packing material to the local site for use in packaging and shipping the RRRAT equipment back to NRC.)

**STEP 1. Turn the RRRAT equipment to be excessed over to site personnel for packing and shipping to the NRC.**

**STEP 2. Instruct site personnel to write “Field Return, part of ORPG Installation” on the outside of the RRRAT packages.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Attachment P: Remote BDDS Installation**

Some DOT and DOD sites have a RBDDS. This RBDDS equipment will be located with the MSCF for the same site. Most RBDDS equipment will be located at a remote DOC NWS Forecast Office.

The INCO Team shall audit all elements of the RBDDS against the SAD provided with the equipment.

**P.1 Connect the T1 line at the radar site to the CSU/DSU module on the RPG router****P.1.1 DOD**

**STEP 1. Connect new cable W111 from UD70CP7 to the phone company's T1 CSU.**

**P.1.2 FAA (Reference EHB 6-525, FO7-1, Sheet 4 of 5)****NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**STEP 1. Connect new cable W142 from UD70CP7 to relay box UD31J22 using RJ45-DB15M Adapter Assembly 2300021-301.**

**STEP 2. Connect new cable W152 from UD170CP7 to relay box UD31J24 using RJ45-DB15M Adapter Assembly 2300021-301.**

**STEP 3. Connect new cable W112 from phone company's T1 CSU to relay box UD31J25 using RJ45-DB15F Adapter Assembly 2300011-302.**

**P.2 Go to RBDDS Site**

Reference Section N.1

**P.3 Setup RBDDS Table**

Drawing 2300022

Assemble according to the manufacturer's instruction set.

**P.4 Setup RBDDS****P.4.1 Install RBDDS Processor (SUN ULTRA 5) UD72A1**

Two technicians are required for this procedure.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup: NONE

- STEP 1.**      **With the assistance of the second technician, place the Remote BDDS Processor on the RBDDS stand.**
- STEP 2.**      **Connect and label (for reinstallation) all remaining cables to the back of Remote BDDS Processor. Refer to Drawing 2000038 for label information. This cable will be the same T1 link cable previously used for a Remote RIDDs configuration, if used at this site.**
- STEP 3.**      **Ensure power switch at rear of unit is in the OFF position.**
- STEP 4.**      **Locate and connect the AC power cord (UD72W191) to the back of the Remote BDDS Processor.**
- STEP 5.**      **For setup procedures and instructions see Section 6–6, paragraph 6–6.19 of the EHB 6-525 WSR–88D RPG Maintenance Manual (Open Systems).**

P.4.2 Install RBDDS 17-Inch Monitor (SUN) UD72A2

Two technicians are required for this procedure.

Equipment and Tools Required.: NONE

Initial Conditions/Preliminary Setup: Locate the Remote BDDS SUN 17–Inch Monitor UD72A2.

- STEP 1.**      **With help from the second technician, place the Remote BDDS Monitor on the RBDDS Stand.**
- STEP 2.**      **Locate and connect the Monitor Video Cable from the Video Port (UD72A1A1J4) at the back of the Remote BDDS Processor.**
- STEP 3.**      **Locate and connect the AC power cord (72W192) from the back of the Remote BDDS Monitor to the RBDDS Surge Suppressor (UD72E1).**

P.4.3 Install RBDDS Keyboard (SUN) UD72A3

One technician is required for this procedure.

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup: Locate the Sun Remote BDDS Keyboard UD72A3.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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- STEP 1.      Locate and connect the Remote BDDS Keyboard cable to the Keyboard port at the back of the Remote BDDS Processor.**
- STEP 2.      Place Keyboard face down on a level surface in preparation for installing the RBDDS Mouse.**

P.4.4 Install RBDDS Mouse (SUN) UD72A4

One technician is required for this procedure.

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup: Locate the Sun Remote BDDS Mouse UD72A4.

- STEP 1.      Connect the Remote BDDS Mouse cable to the Mouse port at the underside of the Keyboard.**
- STEP 2.      Place Keyboard and Mouse back on the RBDDS Stand.**
- STEP 3.      Connect Keyboard cable to the Keyboard port at the back of Remote BDDS Processor.**

P.4.5 Install Remote LAN Switch (CISCO 2924) UD73

One technician is required for this procedure.

Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup: Locate the Remote LAN Switch UD73.

- STEP 1.      Place the Remote LAN Switch UD73 on the RBDDS Stand.**
- STEP 2.      Connect and label (for reinstallation) all Remote LAN Switch connections (RJ45) to the front of the Remote LAN Switch.**  
**Cable W273 to Lan Jack 4**  
**Cable W274 to Lan Jack 12**  
**Cable W272 to Lan Jack 3**
- STEP 3.      Locate and connect the AC power cord to the back of the Remote LAN Switch.**

P.4.6 Install Remote Router (CISCO 2621) UD74A1

One technician is required for this procedure.

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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Equipment and Tools Required: NONE

Initial Conditions/Preliminary Setup: Locate the Remote Router UD74A1

**STEP 1. Place the Remote Router UD74A1 on the RBDDS Stand.**

**NOTE**

**The commercial T1 link which is used for the Remote BDDS connection is the same link which was previously used for the Remote RIDDS connection.**

**STEP 2. Power-off the CSU used for the Remote RIDDS and ask site personnel to power down the Remote RIDDS workstation.**

**STEP 3. At the Remote RIDDS CSU, disconnect the cable that comes from the phone company's T1 CSU.**

**STEP 4. Connect this cable (W271) to the UD74A1 Remote Router CSU/DSU (UD74A2).**

**STEP 5. Connect the Ethernet cable W272 to the 10/100 Ethernet port (0/0) at the back of the Remote Router.**

**STEP 6. Locate and connect the AC power cord (W192) from the Remote Router to the RBDDS surge suppressor (UD72E1).**

## **P.5 Cabling and Labeling**

External cables for the Remote BDDS must be located, identified, connected and labeled.

### **P.5.1 Procedures to Connect Remote BDDS External Communications Cables**

Locate and connect the external cables identified in Table P.5.1.1-1  
(Refer to EHB 6-525 WSR-88D RPG Maintenance Manual (Open Systems), Figure FO7-3.  
WSR-88 Remote BDDS System Interconnectivity Diagram

**Table P.5.1-1 Connect Remote BDDS External Cables**

| <b>From</b>  | <b>Cable ID</b> | <b>To</b>        | <b>Connection</b> |
|--------------|-----------------|------------------|-------------------|
| Demarc Frame | W271            | CSU/DSU UD74A1A2 | T1                |

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## P.5.2 Procedures to Label External Cables

All required cable markers to re-label Legacy cable assemblies externally connected the ROC and shipped to the site. Each “kit” will be unique for each site.” (See Table R.1-1 and R.2-1 for an identification of cables by their part number, “W” identifier, from - to information and a NEXRAD site matrix identifying by site, cables requiring re-labeling.)

**Utilizing Table R.1-1 and R.2-1 will identify the range of “legacy” cables requiring re-labeling. A initial visual comparison of the cables identified on the lists (Tables) versus the cables present is recommended. The re-labeling process must be accomplished one cable at a time .This re-labeling of cable assemblies comprises both ends of the cable as well as its center cable marker. Selecting a cable, observe the “from/to” label marking [i.e. W209 P1(22J16) ] at the loose/disconnected end of the cable. Using Table R.1-1/R.2-1, identify the cable length for the selected cable “W number” whereby the location of the cable assembly part number label can be approximately determined (typically located mid-point on the cables length). Upon locating the cable assembly part number label, confirm the UNISYS part number on the label matches the UNISYS part number identified in Table R.1-1/R.2-1 for this site. Affirming a part number match, the Tables will identify the replacement labels with the same “W” cable number, ROC assigned part number and “from/to” replacement labels. Locate/remove the applicable labels (3) from the “Legacy Cable Re-labeling Kit”. Using a “utility knife” (razor), carefully cut only the existing label(s) on the cable. Remove the legacy cable marker and replace with the new label. Continue this process until all previously externally connected cables to the RPG cabinet have been re-labeled.**

|      |           |         |     |
|------|-----------|---------|-----|
| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**P.6 Power up**

Use the procedures in Table P.6-1 to power on the Remote Base Data Distribution Server Workstation.

| Table P.6-1 Remote Base Data Distribution Server Startup Procedure   |                               |   |  |
|--|-------------------------------|---|--|
| Step   | Equipment/Location            | Action/Procedure  | Indication/Reference   |
| <p style="text-align: center;"><b>NOTE</b></p> <p>Ensure the power switch at the rear of the Sun Ultra-5 processor is in the OFF position. The processor will not actually be powered-up until the next section.</p> |                               |   |  |
| 1  | Office/Building Power Panel.  | Set the appropriate circuit breaker to the On position.     | Applies AC power to the RBDDS UD72MP1 Stand.                     |
| 2  | RBDDS Surge Suppressor UD72E1 | Set the Power switch to the On (1) position.                | Applies AC power to the RBDDS Power Strip.                       |
| 3  | Remote Router UD74A1          | Set the Power switch (rear of unit) to the On (1) position. | Applies AC power to the Remote Router.                           |
| 4  | Remote LAN Switch UD73        | Plug in the power cord.                                     | Applies AC power to the Remote LAN Switch.                       |
| 5  | RBDDS Monitor UD72A2          | Press the Power button on the front of the Monitor.         | Green LED turns on and AC power is applied to the RBDDS Monitor. |

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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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## P.7 Remote BDDS Workstation (UD72) Checkout and Testing

The ROC hotline (800-643-3363), backed by RPG engineering staff, will be available to assist via telephone.

Reference Attachment Q troubleshooting procedures to resolve problems for which specific troubleshooting guidance is not provided.

These tests are designed to provide the initial checkout of a Remote BDDS workstation. These tests will verify hardware operability, verify if all external communications links are functional and validate that correct site specific software has been loaded for all network-type components. BDDS applications software functionality will be verified and the network connectivity to the RPGPCA(s) will be verified.

### P.7.1 Assumptions

- a. All RPGPCA equipment is installed IAW Attachment F and the RPCPCA Checkout Tests are completed (Section H.1).
- b. All Distant MSCF equipment is installed and connected IAW Attachment O.
- c. All Remote BDDS equipment is powered-on except the Sun processor. This includes the UD73 Remote LAN Switch and the UD74A1 Remote Router. The power-on of the Sun processor will be done as part of these tests so that boot sequences can be evaluated.
- d. All network components were configured and/or had software loaded for this specific site when built as a kit.
- e. The Sun processor was shipped with no root password set.
- f. All pre-inspection verifications and tests were performed IAW Attachment D.
- g. The RBDDS user(s) systems are installed and functional. The connection of client cabling to the RBDDS LAN switch is complete and client IP address assignment(s) are complete. Per Attachment X, the installation of the BDDS ingest system, cabling, and connection to the RPG cabinet (or RBDDS LAN switch as appropriate) is the responsibility of the BDDS user.

### P.7.2 Remote BDDS Processor Boot Analysis

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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| SCALE | NONE | SHEET 301 | OF 389 |
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**NOTE**

The next steps will involve powering on the processor and monitoring the boot sequence for possible errors. Before performing these steps, locate EHB 6-525, Section 6-3, Figure 6-2 Fault Note 26 and study the “ERROR NOTES” which are listed just prior to the example of a good boot. This will help pinpoint the specific portions of the boot sequence that should be checked for possible errors.

**STEP 1.** Power on the BDDS processor with rocker switch at rear of unit.

**NOTE**

When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.

**STEP 2.** Observe the boot sequence on the monitor. Compare boot sequence to the example provided in EHB 6-525, Section 6-3, Figure 6-2 Fault Note 26. If any boot-type problems are noted, troubleshoot using EHB 6-525 flowcharts, Figure 6-2, sheet 3. If necessary, reboot processor per Fault Note 26 to evaluate corrective actions.

**NOTE**

If the Fault Note 26 error indicated a “link down” message for hme0 or hme1 (ERROR NOTE 2), the most probable cause at this time would be possible connectivity problems on cables W273 and W274 (respective to hme0 and hme1 above) or the UD73 Remote LAN switch is not turned on.

**NOTE**

In this step and in many subsequent sections, some cable interconnection information is provided. When asked to troubleshoot these interconnections or to “check connectivity”, the first step should be just to check for tight connections and possibly disconnect/reconnect the cable. In many cases, this could correct the problem. This is especially true of any RJ-45 type connections and any Centronics Telco-type connections.

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| SIZE  | CAGE CODE | DWG NO.   | REV    |
| A     | 0WY55     | 2640002   | B      |
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### P.7.3 Remote BDDS Applications Software Check

- STEP 1.**      **Log into the BDDS CDE as root (should be no password set at this time.) Advise the System Administrator to set a root password after INCO is complete.**

#### **NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 2.**      **In a terminal window, enter hostname<CR> and verify the correct hostname is displayed (indicates bdds-<site ICAO>). If name is not correct, BDDS software must be fully reloaded IAW EHB 6-525, Table 4-52.**
- STEP 3.**      **In a terminal window, enter cd /bdds<CR>. Then enter ./wbstat<CR>. Verify that at least four processes are shown. An additional “wbserver” process would be shown for each connected client.**

### P.7.4 Remote BDDS Network Connectivity Verification

In a terminal window, enter **ping rpg<CR>**. If the message “rpg is alive” is received, then full network connectivity is available to the RPGPCA. Proceed to section P.7.5. If not, troubleshoot in the following manner:

#### **NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 1.**      **Enter ping remote-lan<CR>. If “remote-lan is alive” message is not received, then check for possible connectivity problem on the W273 cable and verify setup of the Remote LAN Switch (UD73) IAW EHB 6-525, Section 6-6, paragraph 6-6.20.**
- STEP 2.**      **Enter ping remote-rtr<CR>. If “remote-rtr is alive” message is not received, then check for possible connectivity problem on the W272 cable and verify setup of the Remote Router (UD74A1) IAW EHB 6-525, Section 6-6, paragraph 6-6.21.**

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| SIZE | CAGE CODE | DWG NO. | REV |
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**STEP 3.** Verify correct connectivity of the W271 cable from the UD74A2 CSU/DSU module to the router to the telephone company's demarc that brings the T1 circuit from the RPGPCA site. Have the INCO personnel at the RPGPCA verify correct connectivity of the internal RPGPCA cable 70/170W234 from the A2 Router CSU/DSU to the I/O panel CP7 feed-through connector. In addition, they should also check for correct connectivity on the following cables external to the RPGPCA cabinet:

**DOD -** W111 from I/O panel CP7 to the telephone company's T1 demarcation point.

**FAA -** W112 from the UD31 relay box J25 connector to the telephone company's T1 demarcation point.

W142 and/or W152 from each channel's I/O panel CP7 to the UD31 relay box (from UD70 and UD170 respectively).

**STEP 4.** If all else fails, ask site technicians to contact the phone company and have them check the commercial T1 link. In most cases, site technicians at the site where the Remote BDDS is located will be responsible for coordinating this effort with the phone company.

#### P.7.5 BDDS Client Connectivity Verification

#### NOTE

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

**STEP 1.** For all client Ethernet cables connected to UD73 LAN Switch ports 13 through 16, verify that a green link indicator is present. If a green link indicator can be achieved on some but not all ports, recheck switch setup IAW EHB 6-525, Section 6-6, paragraph 6-6.20. If the client connection can not be achieved on any client ports, contact local site technicians and ask them to assist in troubleshooting the link to its source (office processor/hub or commercial T1 link to an off-site location).

**STEP 2.** Perform this step only if a BDDS Client physical link is present (Step 1). If the client was physically connected when P.6.3, step 3. was performed, verify that the client's IP address (or host name) was listed in the "Connected

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**Client Processes” log at the bottom of the status listing. If the physical connection was made after P.7.3 step 3. was performed, then in a Remote BDDS terminal window, enter cd /bdds<CR>. Then enter .wbstat<CR>. For each client that has a logical connection, an extra wbsvr process should be listed and the client’s IP address (or host name) should be listed in the “Connected Client Processes” log at the bottom of the status listing. If not, then contact local site technicians and ask them to assist in coordinating with the “clients” to determine if their remote processors are logically running and correctly configured to receive BDDS data.**

**STEP 3. Exit out of the CDE.**

**P.8 Final acceptance**

Formally turn over the RBDDS to Air Force or DOC site staff, as appropriate.

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|-------|-----------|-----------|--------|
| SIZE  | CAGE CODE | DWG NO.   | REV    |
| A     | 0WY55     | 2640002   | B      |
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| SIZE  | CAGE CODE | DWG NO.   | REV    |
| A     | 0WY55     | 2640002   | B      |
| SCALE | NONE      | SHEET 306 | OF 389 |

## Attachment Q: Troubleshooting

The ROC hotline (800-643-3363) will be backed by RPG engineering staff and will be available to assist via telephone if problems are encountered.

### Q.1 Troubleshooting Procedures

Reference Chapter 6, Section 6.3, Primary Fault Isolation, EHB 6-525 WSR-88D RPG Maintenance Manual to resolve any problems. Use EHB 6-525, Figure 6-2, Sheet 1, RPG Fault Isolation Flowchart (Operability Check) to isolate various problem situations.

### Q.2 Unique Troubleshooting Procedures

#### Q.2.1 Troubleshooting Defective Narrowband (Product Distribution) Dedicated Circuits

If a dedicated circuit is not physically connecting, the problem could be:

- The commercial circuit is down.
- The transmit/receive pairs are swapped on the demarc block.
- There is a defective cable between the modem in the RPGPCA modem rack and demarc block.

For the first two possibilities, paragraph Q.2.1.2 will help troubleshoot/correct the problem. If this doesn't isolate the problem, continue with paragraph Q.2.1.3 to isolate a possible defective cable. Paragraph Q.2.1.2 will require assistance from the far end user. If the far-end user is not available to assist at this time, proceed to paragraph Q.2.1.3.

### NOTE

**In many subsequent sections, some cable interconnection information is provided. When asked to troubleshoot these interconnections or to “check connectivity”, the first step should be to check for tight connections and possibly disconnect/reconnect the cable. In many cases, this could correct the problem.**

**This is especially true of any RJ-45 type connections and any Centronics Telco-type connections.**

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**Q.2.1.1 Support Equipment Required**

Telephone Butt Set (Harris TS22 or equivalent)  
Telco Loopback Connector, DB50 Female (2320058-301)  
Telco Loopback Connector, Centronics Female (2320059-301)  
Multimeter  
Wire Markers or White Adhesive Tape (for marking modems)  
“Old” and “New” Circuit Reports

**Q.2.1.2 Commercial Circuit and Demarc Pair Alignment Check**

- STEP 1.** Locate the “new” circuit report and identify the defective dedicated circuit. Determine what tabs are used for that circuit on the 2-RJ2DX or 4-RJ2DX demarc blocks. For example, the fourth dedicated circuit would use tabs 13 through 16. The top pair on the demarc block is the RPG’s transmit pair and the bottom pair is the RPG’s receive pair.
- STEP 2.** For that circuit, remove the two surge suppressors (or possibly four bridge clips). This opens the circuit and subsequent checks should always be made on the telephone company side of the block.
- STEP 3.** Call the far end user. Ask them to either temporarily place their modem into an Answer mode (instead of Originate) or place a tracer tone on the transmit pair of their out-going circuit. A modem set to Answer mode normally puts out a ranging tone.
- STEP 4.** Using the Telephone Butt Set, set to Modem mode, connect the clip leads on the bottom pair of tabs on the demarc block for that circuit (RPG’s receive pair).
- STEP 5.** Listen and determine if you can hear a ranging tone or tracer tone from the far end modem. If you can hear the tone on this pair, reinstall surge suppressors (or bridge clips) and continue with troubleshooting in paragraph Q.2.1.3. If you don’t hear a tone, continue with this paragraph.

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- STEP 6.** Connect the butt set clip leads to the top pair (RPG's transmit pair). If you hear the tone on this pair, the transmit and receive pairs are punched down wrong for this circuit. At the punch down location, remove the four wires and repunch with the pairs reversed (i.e., original bottom two wires to top two tabs and original top two wires to bottom two tabs). Reinstall removed surge suppressors (or bridge clips) and recheck full circuit connectivity IAW Attachment H, paragraph H.1.8, step 3.
- STEP 7.** If the tone was not heard on either pair, ask site technicians to assist with verifying good four-wire connectivity all the way back to the actual phone company's demarcation point. If those connections appear OK, ask site technicians to contact the phone company to have them check the commercial circuit.

**Q.2.1.3 Loopback Testing To Determine Possible Defective Cables (Dedicated)**

This test will use loopback connectors to loopback adjacent pairs of modems to help identify possible defective cables for dedicated modem circuits. The procedure is written to test all dedicated circuits in this manner; however, INCO personnel may chose to concentrate on only the defective circuit(s). It would be a good idea to test all circuits at this time in case needed for future use.

**NOTE**

**When performing EHB 6-525 procedures, ensure this page is book marked. Always return to this step when EHB 6-525 referenced procedures are completed.**

- STEP 1.** Select two dedicated 14.4 modems from slots 6 through 20 in the RPGPCA's A14 modem rack. Check the transmit level on both modems and mark each modem to annotate what its transmit level is and what slot it is presently in. On both modems, set the LL TX Level to -15 dB. On one of the two modems, set its Modulation Mode to "Originate" and its Modulation Clock to Internal. Save the settings. These two modems will become the "test" modems for all further checks in this section. See EHB 6-525, Section 6-6, paragraph 6-6.13 for information on how to check, set, or save modem settings

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- STEP 2.** At the 2-RJ2DX block (Leased Lines), disconnect the 25-pair cable Centronics connector from the demarc block. At the end of the cable, install the Centronics Female Telco Loopback connector (2320059-301). See Attachment U for more information on identifying demarc blocks and the correct 25-pair cable.
- STEP 3.** Starting in slots 5 and 6 of the A14 modem rack, remove any presently installed modems and set modems aside so they can be identified and reinserted in their original slots. All dedicated modems other than the “test” modems can be removed at this time; however, they should be marked (wire marker labels or white adhesive tape) to identify their modem slot so that they can be returned to their respective slots when these tests are completed.

#### NOTE

**Modems can be removed and inserted with modem rack power on.**

- STEP 4.** Insert the two test modems identified in step 1 into slots 5 and 6. If modems connect (Data 14.4), then those two circuits are good. If not, one or both of those two circuits is bad. Record results.
- STEP 5.** Continue testing in this manner, putting the modems in the following modem slots:
- 7 and 8
  - 9 and 10
  - 11 and 12
  - 13 and 14
  - 15 and 16

**Record results.**

- STEP 6.** Note if there is a W230 or W46 cable connected to the 4-RJ2DX (Leased Line 2) demarc block. DOD and FAA sites will always have this cable. If the cable exists, disconnect the cable from the demarc block and connect the Centronics Female Telco Loopback connector (2320059-301) at the end of that cable. If the cable does not exist, proceed to step 9.

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- STEP 7.** Repeat step 4 with the two test modems in modem rack slots 17 and 18, then 19 and 20. If the original problem was with the Distant MSCF modem link, perform step 8 to test the circuit connection to the modem rack A21 slot. Otherwise, proceed to step 9.
- STEP 8.** (Only if problem is that the Distant MSCF modem in A14A21 will not connect.) Install the test modems in the A20 and A21 slots. At the RPGPCA's A25 Adapter panel, temporarily move the 70/170W124 telco plug from J16 to J18. Determine if two modems connect. Return the 70/170W124 cable to the J16 jack
- STEP 9.** At the demarc blocks, remove loopback connector and reattach cables to the blocks.

#### NOTE

In all subsequent checks, concentrate on troubleshooting defective circuits (loopback pairs).

- STEP 10.** If no problems were noted, then the original circuit problem is not being caused by RPGPCA internal or associated external cables. This procedure is complete. Ensure all modem rack modems are returned to their original locations with their original settings. If one or more loopback tests failed, continue with this procedure.
- STEP 11.** At the rear of the RPGPCA cabinet, remove the cable from J1 of the I/O panel. Install the DB50 Female Loopback connector (2320058-301) on the J1 connector of the I/O panel. Repeat steps 4 and 5. If all loopback tests pass now and they didn't pass with the loopback connector at the demarc block cable, then the cable from the cabinet to the demarc block is defective:
- NWS - W201
  - DOD - W44
  - FAA - W44 or W169 (Channel 1, UD170)
  - FAA - W44 or W162 (Channel 2, UD70)

For FAA sites, if the problem happens on both channels, the problem is W44.

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| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 12.** If a problem was noted in steps 6 through 8 on any circuit associated with the second set of dedicated circuits (modem rack slots 17 through 21), then remove the DB50 Female connector from I/O Panel J1, disconnect the cable the cable from J3 on the I/O panel, and connect the loopback connector at that point. Repeat steps 7. and 8. If all loopback tests pass now and they didn't pass with the loopback connector at the demarc block cable, then the cable from the cabinet to the demarc block is defective:

NWS - W230

DOD - W46

FAA - W46 or W171 (Channel 1, UD170)

FAA - W46 or W164 (Channel 2, UD70)

For FAA sites, if the problem happens on both channels, the problem is W46.

**STEP 13.** If step 11 and/or 12 still indicate circuit problems, continue this procedure to further isolate RGPPCA internal cable problems. Reconnect disconnected cables at the RGPPCA I/O panel.

**STEP 14.** At the rear of the RGPPCA cabinet, disconnect the cable from the top connector (J2) of the A27 Dedicated Patch Panel. Install the Centronics Female Telco Loopback connector (2320059-301) on the J2 connector of the panel. Repeat steps 4. and 5. If all loopback tests pass now and they didn't pass with the loopback connector at the cabinet I/O panel, then the cable from the patch panel to I/O panel J1 is defective (cable 70/170W20). If loopback problems still occur, the problem could be in cable 70/170W19 or in one of the analog phone patch cords from the modem rack to the A25 adapter panel (70/170W109 through W120). To eliminate the possibility of bad analog patch cords, either perform continuity checks on them or temporarily interchange them with known good ones.

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**STEP 15.** If a problem was noted in steps 6. through 8. on any circuit associated with the second set of dedicated circuits (modem rack slots 17 through 21), then at the rear of the RPGPCA cabinet, disconnect the cable from the top connector (J2) of the A26 Dedicated Patch Panel. Install the Centronics Female Telco Loopback connector (2320059-301) on the J2 connector of the panel. Repeat steps 7. and 8. If all loopback tests pass now and they didn't pass with the loopback connector at the cabinet I/O panel, then the cable from the patch panel to I/O panel J3 is defective (cable 70/170W22). If loopback problems still occur, the problem could be in cable 70/170W21 or in one of the analog phone patch cords from the modem rack to the A25 adapter panel (70/170W121 through W125). To eliminate the possibility of bad analog patch cords, either perform continuity checks on them or temporarily interchange them with known good ones.

## Q.2.2 Troubleshooting Defective Dial Circuits

If a dial modem will not answer, the problem could be:

- A dial circuit does not actually exist at the dial demarc block..
- An incorrect dial circuit exists at the dial demarc block (i.e., wrong phone number)
- There is a defective cable between the modem in the RPGPCA modem rack and demarc block.

For the first two possibilities, paragraph Q.2.2.2 will help troubleshoot/correct the problem. If this doesn't isolate the problem, continue with paragraph Q.2.2.3 to isolate a possible defective cable.

### Q.2.2.1 Support Equipment Required

Telephone Butt Set (Harris TS22 or equivalent)  
Six Wire Modular Adapter (Harris 10220-100 or equivalent)  
Eight Wire Modular Adapter (Harris 10230-100 or equivalent)  
Multimeter  
"Old" and "New" Circuit Reports

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| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**Q.2.2.2 Check Dial Circuit at Dial Demarc Block**

- STEP 1.** Locate the “new” circuit report and identify the defective dial circuit. Determine what tabs are used for that circuit on the 1-RJ21X demarc block. For example, the fourth dial circuit would use tabs 7 and 8.
- STEP 2.** For that circuit, remove the surge suppressors (or two bridge clips). Subsequent checks in this paragraph should always be made on the telephone company side of the block.
- STEP 3.** Using the Telephone Butt Set in Tone mode, connect the clip leads to the two tabs of the dial pair.
- STEP 4.** Listen and determine if you can hear a dial tone. If not, reverify that the correct circuit exists at the demarc block IAW the “new” circuit report. If so, ask site technician to call the commercial carrier to check for a defective dial circuit. If a tone did exist, continue with step 4 and subsequent section to further isolate why the dial modem did not answer the call during Section H.1 tests.
- STEP 5.** With the telephone butt set still connected to the demarc block, contact the ROC Hotline (800-643-3363) and ask them to test dial-in to this phone number using a normal phone only. Just before the Hotline calls, turn the ringer on for the butt set and place it in an Off-Hook state. (For a Harris-type butt set, this is done by turning the speaker on and temporarily placing the butt set in Modem mode instead of Tone mode.) The Hotline (800-643-3363) has a normal phone connected to a Sprint line that can be used to test phone numbers that are either Sprint or commercial. Verify that the butt set either rings and/or the incoming call can be answered. (For a Harris-type butt set, the call can be answered by going back to Tone mode after hearing the ring indicator.) If not, ask site technicians for assistance in determining what phone number is presently punched at this location and to help track down the circuit with the correct phone number. If the correct dial circuit does exist, continue with paragraph Q.2.2.3 to further isolate why the dial modem did not answer the call during Section H.1 tests

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| SIZE | CAGE CODE | DWG NO. | REV |
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**Q.2.2.3 Isolating Dial Circuit Cable Problems**

Since dial circuits are a single pair of wires, cable problems are easy to isolate by listening for a dial tone, and then performing some basic continuity checks if necessary.

**STEP 1. Connect the Six Wire Modular Adapter (Harris 10220-100 or equivalent) to the RPGPCA's A23 Dial Patch Panel J1 through J8 ("IN") (respective to possible defective dial circuit 1 through 8). Using the Telephone Butt Set in "Tone" mode, connect the clip leads to the "red" and "green" clips on the modular adapter (could also be labeled as "3" and "4"). If a dial tone exists, proceed to step 4. to continue checks. If the dial tone does not exist, the problem could be in one of the following cables:**

**NWS - Internal RPGPCA cable 70/170W33 or external cable W202**

**DOD - Internal RPGPCA cable 70/170W33 or external cable W45**

**FAA - Internal RPGPCA cable 70/170W33 or external cables W170 or W45 (Channel 1, UD170).**

**FAA - Internal RPGPCA cable 70/170W33 or external cables W163 or W45 (Channel 2, UD70).**

**For FAA sites, if the problem happens on both channels, the problem is W45.**

**STEP 2. Open the associated switch on the A23 patch panel. Using a shorting wire, short the "red" and "green" clips on the modular adapter together (could also be labeled as "3" and "4"). At the RPGPCA I/O panel, disconnect the cable at J2 of the I/O panel and check for a shorted connection on J2 for the following pins depending on what dial circuit is being checked:**

**Dial Circuit #1 - Pins 1 and 26**

**Dial Circuit #1 - Pins 2 and 27**

**Dial Circuit #1 - Pins 3 and 28**

**Dial Circuit #1 - Pins 4 and 29**

**Dial Circuit #1 - Pins 5 and 30**

**Dial Circuit #1 - Pins 6 and 31**

**Dial Circuit #1 - Pins 7 and 32**

**Dial Circuit #1 - Pins 8 and 33**

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

SCALE NONE

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**STEP 3.** If the continuity checks are bad in step 2. (no short for a given circuit), then cable 70/170W33 is bad. If continuity checks are good in step 2., the problem must be in the external cable connected to J2. This can be verified by reconnecting the cable at J2 of the RPGPCA I/O panel and then rechecking for the short at the other end of the external cable connected to J2:

NWS - W202 (connected to 1-RJ21X demarc block)

DOD - W45 (connected to 1-RJ21X demarc block)

FAA Channel 1 - W170 (connected to UD31J9)

FAA Channel 2 - W163 (connected to UD31J4)

**STEP 4.** If step 1 indicates a good dial tone, then connect the Eight Wire Modular Adapter (Harris 10230-100 or equivalent) to the RPGPCA's A24 Dial Adapter Panel J1 through J8 (respective to possible defective dial circuit 1 through 8). Using the Telephone Butt Set in "Tone" mode, connect the clip leads to the "red" and "green" clips on the modular adapter (could also be labeled as "4" and "5"). If a dial tone does not exist, then the problem is a defective cable 70/170W32. If the dial tone does not exist, either the dial modem itself is defective (spare dial modems should be available for interchange/testing) or one of the analog phone patch cords from the modem rack to the A24 adapter panel could be defective (70/170W101 through W108, respective to dial circuits 1 through 8).

| SIZE | CAGE CODE | DWG NO. | REV |
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| A    | 0WY55     | 2640002 | B   |

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Attachment R: Illustrations

The following includes illustrations that are referred to in the installation and checkout procedures

R.1 External Cable/Label Cross Reference Matrices

An External Cable/Label Cross Reference Matrices is provided to assist the INCO Team in identifying the correct labels for each site specific external RPG cable. These is table R.1-1.

Table R.1-1 External Cable/Label Cross Reference

| CABLE ID | ROC CBL NO | UNISYS CBL # | LGTH | FROM        | TO          |
|----------|------------|--------------|------|-------------|-------------|
| W162     |            | 1218734-301  | 520" | P1(UD22J1)  | P2(UD31J3)  |
| W162     |            | 1218734-309  | 834" | P1(UD22J1)  | P2(UD31J3)  |
| W163     |            | 1218734-302  | 520" | P1(UD22J2)  | P2(UD31J4)  |
| W163     |            | 1218734-310  | 834" | P1(UD22J2)  | P2(UD31J4)  |
| W164     |            | 1218734-303  | 436" | P1(UD22J3)  | P2(UD31J5)  |
| W166     |            | 1218741-301  | 520" | P1(22J12)   | P2(31J21)   |
| W166     |            | 1218741-303  | 834" | P1(22J12)   | P2(31J21)   |
| W166C    |            | 1218741-310  | 340" | P1(22J12)   | P2(A27J27)  |
| W167     |            | 1224061-301  | 532" | P1(UD22J21) | P2(UD31J22) |

| CABLE ID | ROC CBL NO | UNISYS CBL # | LGTH | FROM         | TO           |
|----------|------------|--------------|------|--------------|--------------|
| W167     |            | 1224061-303  | 846" | P1(UD22J21)  | P2(UD31J22)  |
| W168     |            | 1218737-301  | 520" | P1(UD22J22)  | P2(UD31J1)   |
| W168     |            | 1218737-305  | 834" | P1(UD22J22)  | P2(UD31J1)   |
| W169     |            | 1218734-305  | 397" | P1(UD122J1)  | P2(UD31J8)   |
| W169     |            | 1218734-311  | 468" | P1(UD122J1)  | P2(UD31J8)   |
| W169A    |            | 1218734-313  | 397" | P1(UD122J1)  | P2UD31AJ14)  |
| W169B    |            | 1218734-314  | 148" | P1(UD31AJ8)  | P2(UD31J8)   |
| W170     |            | 1218734-306  | 397" | P1(UD122J2)  | P2(UDJ31J9)  |
| W170     |            | 1218734-312  | 468" | P1(UD122J2)  | P2(UDJ31J9)  |
| W170A    |            | 1218734-315  | 397" | P1(UD122J2)  | P2(UD31AJ15) |
| W171     |            | 1218734-307  | 316" | P1(UD122J3)  | P2(UD31J10)  |
| W171A    |            | 1218734-317  | 397" | P1(UD122J3)  | P2(UD31AJ16) |
| W173     |            | 1218741-302  | 397" | P1(122J12)   | P2(31J23)    |
| W173     |            | 1218741-304  | 468" | P1(122J12)   | P2(31J23)    |
| W173A    |            | 1218741-306  | 300" | P1(122J12)   | P2(A27J22)   |
| W177     |            | 1224061-304  | 480" | P1(UD122J21) | P2(UD31J24)  |
| W177A    |            | 1224061-308  | 320" | P1(UD122J21) | P2(UD31AJ25) |

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| SIZE | CAGE CODE | DWG NO. | REV |
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| CABLE ID | ROC CBL NO         | UNISYS CBL # | LGTH | FROM         | TO                 |
|----------|--------------------|--------------|------|--------------|--------------------|
| W178     |                    | 1218737-302  | 397" | P1(UD122J22) | P2(UD31J2)         |
| W178     |                    | 1218737-306  | 468" | P1(UD122J22) | P2(UD31J2)         |
| W179     |                    | 1218737-306  |      | P1(UD122J22) | P2(UD31J2)         |
| W180     |                    | 1218735-304  |      | P1(UD122J5)  | P2(UD31J20)        |
| W200     | <b>2320041-302</b> | 1218209-301  | 600" | P1(21FL1J1)  | P2(208VAC/3 PHASE) |
| W200     | <b>2320055-301</b> | 1218209-303  | 600" | P1(21FL1J1)  | P2(208VAC/3 PHASE) |
| W200     | <b>2320055-301</b> | 1218209-303  | 600" | P1(21FL1J1)  | P2(208VAC/3 PHASE) |
| W200     | <b>2320055-301</b> | 1218209-303  | 600" | P1(21FL1J1)  | P2(208VAC/3 PHASE) |
| W200     | <b>2320055-301</b> | 1218209-303  | 600" | P1(21FL1J1)  | P2(208VAC/3 PHASE) |
| W200     | <b>2320055-301</b> | 1218209-303  | 600" | P1(21FL1J1)  | P2(208VAC/3 PHASE) |
| W200     | <b>2320055-301</b> | 1218209-303  | 600" | P1(21FL1J1)  | P2(208VAC/3 PHASE) |
| W201     | <b>2320037-301</b> | 1214868-301  | 600" | P1(22J1)     | P2(LEASED)         |
| W201     |                    | 1219656-301  | 600" | P1(22J1)     | P2(LEASED)         |
| W201     |                    | 1219656-301  | 600" | P1(22J1)     | P2(LEASED)         |
| W201     |                    | 1219656-301  | 600" | P1(22J1)     | P2(LEASED)         |
| W201     |                    | 1219656-301  | 600" | P1(22J1)     | P2(LEASED)         |
| W201     |                    | 1219656-301  | 600" | P1(22J1)     | P2(LEASED)         |
| W201     |                    | 1219656-301  | 600" | P1(22J1)     | P2(LEASED)         |
| W201     |                    | 1219656-301  | 600" | P1(22J1)     | P2(LEASED)         |
| W201     |                    | 1219656-305  | 600" | P1(22J4)     | P2(DIAL 2)         |

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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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| CABLE ID | ROC CBL NO  | UNISYS CBL # | LGTH  | FROM     | TO         |
|----------|-------------|--------------|-------|----------|------------|
| W201     | 2320040-301 |              | 1200" | P1(22J1) | P2(LEASED) |
| W202     |             | 1214868-302  | 600'  | P1(22J2) | P2(DIAL)   |
| W202     |             | 1214868-304  | 714"  | P1(22J2) | P2(DIAL)   |
| W202     |             | 1219656-302  | 600"  | P1(22J2) | P2(DIAL)   |
| W202     |             | 1219656-302  | 600"  | P1(22J2) | P2(DIAL)   |
| W202     |             | 1219656-302  | 600"  | P2(22J2) | P2(DIAL)   |
| W202     |             | 1219656-302  | 600"  | P2(22J2) | P2(DIAL)   |
| W202     |             | 1219656-302  | 600"  | P2(22J2) | P2(DIAL)   |
| W202     |             | 1219656-302  | 600"  | P2(22J2) | P2(DIAL)   |
| W202     |             | 1219656-302  | 600"  | P2(22J2) | P2(DIAL)   |
| W202     |             | 1219656-306  | 1200" | P1(22J1) | P2(LEASED) |
| W202     | 2320040-302 |              | 1200" | P1(22J2) | P2(DIAL)   |

|      |  |             |      |           |                |
|------|--|-------------|------|-----------|----------------|
| W210 |  | 1214757-304 | 609" | P1(22J17) | P2(24SES2-AUX) |
| W212 |  | 1214757-306 | 609" | P1(22J16) | P2(24SES1-EIA) |

|      |             |             |      |           |           |
|------|-------------|-------------|------|-----------|-----------|
| W216 | 2320043-301 | 1224039-302 | 612" | A26       | P1(22J19) |
| W216 | 2320043-301 | 1224039-302 | 612" | A26       | P1(22J19) |
| W216 |             | 1224060-302 | 396" | (A26LOAD) | P1(22J19) |
| W216 |             | 1224060-302 | 396" | (A26LOAD) | P1(22J19) |
| W216 | 2320043-302 | 1224060-304 | 660" | (A26LOAD) | P1(22J19) |

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| SIZE | CAGE CODE | DWG NO. | REV |
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| SCALE NONE | SHEET 320 OF 389 |
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| CABLE ID | ROC CBL NO         | UNISYS CBL # | LGTH  | FROM           | TO            |
|----------|--------------------|--------------|-------|----------------|---------------|
| W216     |                    | 1224060-307  | 1200" | (A26LOAD)      | P1(22J19)     |
| W216     | <b>2320042-301</b> |              | 612"  | A26            | P1(70/170J19) |
| W218     |                    | 1224039-301  | 612"  | N/A            | P1(22J19)     |
| W218     |                    | 1224039-301  | 612"  | N/A            | P1(22J19)     |
| W218     |                    | 1224039-301  | 612"  | N/A            | P1(22J19)     |
| W218     |                    | 1224039-301  | 612"  | N/A            | P1(22J19)     |
| W230     | <b>2320037-303</b> | 1214868-303  | 600"  | P1(22J3)       | P2(LEASED 2)  |
| W250     |                    | 1217038-301  | 618"  | P1(22J20)      | P2(39J2)      |
| W250     |                    | 1223893-301  | 600"  | P1(22J20)      | P2(39J2)      |
| W251     |                    | 1217041-301  | 618"  | P1(22J19)      | P2(39J1)      |
| W251     |                    | 1223893-302  | 600"  | P1(22J19)      | P2(39J1)      |
| W251     |                    | 1224065-301  | 618"  | P1(22J19)      | P2(39J1)      |
| W328     |                    | 1214822-301  | 600"  | P1(41J15)      | P2(22/122J5)  |
| W328     | <b>2320036-302</b> | 1214822-304  | 600'  | P1(41J15)      | P2(31J13)     |
| W328     | <b>2320042-301</b> | 1218824-301  | 600"  | P1(41J15) Plen | P2(22/122J5)  |
| W328     | <b>2320042-301</b> | 1218824-301  | 600"  | P1(41J15) Plen | P2(22/122J5)  |
| W328     | <b>2320042-301</b> | 1218824-301  | 600"  | P1(41J15) Plen | P2(22/122J5)  |
| W328     | <b>2320042-301</b> | 1218824-301  | 600"  | P1(41J15) Plen | P2(22/122J5)  |
| W328     | <b>2320042-301</b> | 1218824-301  | 600"  | P1(41J15) Plen | P2(22/122J5)  |

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| SIZE | CAGE CODE | DWG NO. | REV |
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| SCALE NONE | SHEET 321 OF 389 |
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| CABLE ID | ROC CBL NO  | UNISYS CBL # | LGTH  | FROM           | TO           |
|----------|-------------|--------------|-------|----------------|--------------|
| W328     | 2320042-301 | 1218824-301  | 600"  | P1(41J15) Plen | P2(22/122J5) |
| W328     | 2320042-302 | 1218824-303  | 2760" | P1(41J15) Plen | P2(22/122J5) |
| W328     | 2320036-301 |              | TBD   | P1(41J15)      | P2(70/170J5) |

|           |  |             |       |               |              |
|-----------|--|-------------|-------|---------------|--------------|
| W36/W136  |  | 1218187-301 | 240"  | P1(22/122J19) | P2(5/105J11) |
| W36/W136  |  | 1218187-301 | 240"  | P1(22/122J19) | P2(5/105J11) |
| W36/W136  |  | 1218187-301 | 240"  | P1(22/122J19) | P2(5/105J11) |
| W36/W136  |  | 1218187-303 | 297"  | P1(22J19)     | P2(5J11)     |
| W36/W136  |  | 1218187-304 | 369"  | P1(22J19)     | P2(5J11)     |
| W36/W136A |  | 1218187-305 | 311"  | P1(122J19)    | P2(105J11)   |
| W36/W136  |  | 1218187-306 | 2730" | P1(122J19)    | P2(105J11)   |
| W36/W136A |  | 1218187-308 | 240"  | P1(122J19)    | P2(A27J5)    |
| W36A      |  | 1224061-310 | 320"  | P1(UD22J19)   | P2(A27J16)   |
| W36A      |  | 1224186-301 | 420"  | P1(22J19)     | P2(A27J5)    |

|     |  |             |      |           |                |
|-----|--|-------------|------|-----------|----------------|
| W44 |  | 1214868-305 | 275" | P1(22J1)  | P2(LEASED)     |
| W44 |  | 1214868-305 | 275" | P1(22J1)  | P2(LEASED)     |
| W44 |  | 1214868-305 | 275" | P1(22J1)  | P2(LEASED)     |
| W44 |  | 1214868-308 | 232" | P1(31J14) | P2(TB2-LEASED) |
| W44 |  | 1214868-315 | 714" | P1(31J14) | P2(TB2-LEASED) |
| W44 |  | 1214868-319 | 232" | P1(31AJ3) | P2(OSF3RTB9)   |
| W45 |  | 1214868-306 | 260" | P1(22J2)  | P2(DIAL)       |
| W45 |  | 1214868-306 | 260" | P1(22J2)  | P2(DIAL)       |
| W45 |  | 1214868-306 | 260" | P1(22J2)  | P2(DIAL0       |
| W45 |  | 1214868-309 | 232" | P1(31J15) | P2(TB1-DIAL)   |

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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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| CABLE ID     | ROC CBL NO  | UNISYS CBL # | LGTH | FROM             | TO               |
|--------------|-------------|--------------|------|------------------|------------------|
| W45          |             | 1214868-316  | 714" | P1(31J15)        | P2(TB1-DIAL)     |
| W45          |             | 1214868-320  | 232" | P1(31AJ4)        | P2(OSF3RTB7)     |
| W46          |             | 1214868-307  | 285" | P1(22J3)         | P2(LEASED 2)     |
| W46          |             | 1214868-310  | 232" | P1(31J16)        | P2(TB4-LEASED)   |
| W9           | 2320055-301 | 1218209-302  | 94"  | P1(21FL1J1)      | (208VAC/3 PHASE) |
| W9           | 2320055-301 | 1218209-302  | 94"  | P1(21FL1J1)      | (208VAC/3 PHASE) |
| W9           | 2320055-302 |              | 595" | P1(70/170FL1J1)  |                  |
| W9/109       | 2320041-303 | 1218209-304  | 73"  | P1(22/122FL1J1)  | (208VAC/3 PHASE) |
| W9/109       | 2320041-303 | 1218209-304  | 73"  | P1(22/122FL1J1)  | (208VAC/3 PHASE) |
| W95/W195     |             | 1221200-301  | 300" | P1(22/122J17)    | P2(5/105J25)     |
| W95/W195     |             | 1221200-301  | 300" | P1(22/122J17)    | P2(5/105J25)     |
| W95/W195     |             | 1221200-301  | 300" | P1(22/122J17)    | P2(5/105J25)     |
| W95/W195     |             | 1221200-301  | 300" | P1(22/122J17)    | P2(5/105J25)     |
| W95/W195     |             | 1221200-302  | 390" | P1(22/122J17)    | P2(5/105J25)     |
| GND CBL ASSY |             | 1219716-302  | 600" | E1(22/122E1-GND) | NA               |
| GND CBL ASSY |             | 1219716-304  | 600" | E1(22/122E1-GND) | NA               |
| GND CBL ASSY |             | 1219716-301  | 600" | E1(41E1-GND)     | NA               |
| GND CBL ASSY |             | 1219716-303  | 600" | E1(41E1-GND)     | NA               |

|      |           |         |     |
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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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| SCALE NONE | SHEET 323 OF 389 |
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**R.2 List of Illustrations in Plan with Descriptions**  
(Drawings (shaded) will be supplied from the ROC.)

**Table R.2-1 List of Illustrations**

| <b>Drawing/Document #</b> | <b>Description</b>         |
|---------------------------|----------------------------|
| 1214559                   | UCP GROUP                  |
| 1214560                   | UCP TABLE                  |
| 1215188                   | LINE PRINTER               |
| 1219716                   | EXTERNAL GROUND WIRE       |
| 1219738                   | MODEM RACK                 |
| 1219744                   | LEGACY RPG CABINET (3 BAY) |
| 1221817                   | LEGACY RPG CABINET (2 BAY) |
| 2000021                   | RPG ICD, NWS               |
| 2000022                   | RPG ICD, DOD               |
| 2000023                   | RPG ICD, FAA               |
| 2300026                   | RDA/RPG GATEWAY ASSEMBLY   |
| 2000033                   | LOCAL MSCF ICD             |
| 2000034                   | DISTANT MSCF ICD-DOD       |
| 2000036                   | RRRAT ICD                  |
| 2000037                   | RPG ICD, NWS MLOS          |
| 2000038                   | REMOTE BDDS ICD            |
| 2000039                   | DISTANT MSCF ICD-FAA       |
| 2210008-207               | JAZ DRIVE                  |
| 2210015-301               | BDDS PROCESSOR             |
| 2210015-302               | MSCF PROCESSOR             |
| 2210017-203               | KEYBOARD                   |
| 2210017-204               | MOUSE                      |

|      |           |         |     |
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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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|             |                      |
|-------------|----------------------|
| 2210035-201 | RPG MONITOR, 17"     |
| 2300006     | RPG CABINET          |
| 2300017     | UPS ASSEMBLY         |
| 2300022     | RBDDS WORKSTATION    |
| 2300023     | MSCF WORKSTATION     |
| 2300024     | MSCF PRINTER STATION |
| 2310016-301 | RPG PROCESSOR        |

|       |           |           |        |
|-------|-----------|-----------|--------|
| SIZE  | CAGE CODE | DWG NO.   | REV    |
| A     | 0WY55     | 2640002   | B      |
| SCALE | NONE      | SHEET 325 | OF 389 |

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| SIZE  | CAGE CODE | DWG NO.   | REV    |
| A     | 0WY55     | 2640002   | B      |
| SCALE | NONE      | SHEET 326 | OF 389 |

**Attachment S: Legacy Parts Disposition****S.1 General Information**

This attachment contains information about the parts in the Legacy RPG cabinets that will not be re-used in the Open RPG. Table S.2-1 contains a list of all of the assemblies that need to be removed from the UD21/22 Legacy RPG cabinets prior to shipping them back to NRC. This table is arranged in the preferred order of removal and groups together parts that can be removed together without listing individual parts separately. For example, all the cards in the Concurrent Chassis are not listed but are removed together by leaving them in the chassis and then removing the entire chassis. It contains references to removal procedures in the NWS EHB 6-520 manual, as well as other specific procedures in this section that were written for this purpose.

Table S.3-1 is an all encompassing list of Legacy RPG parts that will not be reused for Open RPG and should NOT be sent back to NRC with the cabinets. It includes things such as cables, switches, connectors, as well as major assemblies. These items should be removed and turned over to the site property manager for local disposal IAW their agency's current policy. Any complement of this list may be present at a given site. Upon completion of the removal procedures in Section S.2, all major assemblies and associated cables should be out of the cabinets. Refer to Table S.3-1 only as necessary if it is unclear as to whether an item that is still in the cabinets should be removed.

|       |           |           |        |
|-------|-----------|-----------|--------|
| SIZE  | CAGE CODE | DWG NO.   | REV    |
| A     | 0WY55     | 2640002   | B      |
| SCALE | NONE      | SHEET 327 | OF 389 |

## S.2 Removing Parts from the UD21/22 RPG Cabinets

All external cables/power cords that were not identified to be re-used and re-labeled in a previous attachment should be removed. All internal cables/power cords that are not specifically identified in Section 18.2 and Attachment J as being left in the cabinets should also be removed.

All mounting hardware for the parts listed in Table S.2-1 including all horizontally mounted support rails should be removed along with those assemblies. All of the vertically mounted support rails should remain in the cabinet to be reused, along with the top hat cabinet fans and filters. Upon completion, refer to NWS EHB 6-501 Figures 44 and 48 in the Documentation binder. Only the highlighted parts should remain in the cabinets. Do NOT removed all communication cables plugged into adapter panels, patch panels, and modems.

Other parts of the Legacy RPG that will not be re-used may not be listed here because they have already been listed previously in other sections. This would include parts of the UCP.

### NOTE

The procedures referenced in the NWS EHB 6-520 manual are normally used for on-site maintenance personnel to remove and replace the associated unit in case of operational failure. Since the parts are now only going to be removed, many of the steps in the referenced procedure will not apply (i.e., removing cards from a chassis and checking strapping). Also, in many cases, external cables will already be disconnected when previous assemblies were removed. Follow only those steps that deal specifically with disconnecting any remaining external cables and then removing the unit from the cabinet.

|       |           |           |        |
|-------|-----------|-----------|--------|
| SIZE  | CAGE CODE | DWG NO.   | REV    |
| A     | 0WY55     | 2640002   | B      |
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**Table S.2-1 Assemblies to be Removed from the UD21/UD22 RPG Cabinets**

| <b><u>PART NUMBER</u></b> | <b><u>LEGACY UD</u></b> | <b><u>PROCEDURE</u></b> | <b><u>DESCRIPTION</u></b>   |
|---------------------------|-------------------------|-------------------------|---|
| 28425                     | 22A5                    | S.2.1                   | LDM Chassis with LDM's, cables, power supply and cord   |
| 28200                     | 22A15 - A17             | S.2.2                   | Standalone LDM's with cables, power cords, power strip, and shelf                                   |
| 60334<br>4600-02          | 22A7                    | 6-520<br>para. 6-5.24   | STATMUX with cables, power cords, and rails   |
| 35-896F00MxxRxx           | 21A15                   | 6-520<br>para. 6-5.16   | CDS Patch Panel   |
| 14-127F00MxxRxx           | 21A8                    | S.2.3                   | Convenience Panel with cables   |
| 12V-819-R20J12MP75        | 21A4                    | 6-520<br>para. 6-5.6    | VME Chassis with boards, fans, cables, power cord, and rails.                                       |
| 93-527F00MxxRxx           | 21A9<br>21A12           | 6-520<br>para. 6-5.14   | SCSI Enclosure Assembly with all drives, power supply, cables, fans, rails, covers, and power cords |
| 93-AAYF00MxxRxx           | 21PS1                   | 6-520<br>para. 6-5.19   | Swing-Out Power Subsystem with all modules, batteries, fans, cables, and power cords                |
| 92-618F00MxxRxx           | 21A3                    | S.2.4                   | Concurrent Processor Chassis with boards, terminators, cables, and rails                            |
| 93-549F00MxxRxx           | 21A5                    | S.2.5                   | Lower Fan Pan Assembly with fans, sensor board, cables, rails, filter, and power cord               |

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| SIZE | CAGE CODE | DWG NO. | REV |
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| SCALE | NONE | SHEET 329 | OF 389 |
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**NOTE**

The Legacy parts that are being removed will be left for the on-site maintenance personnel to either dispose of or to store for spare parts. All Legacy printed circuit boards and chassis backplanes are electrostatic sensitive devices that require special ESD handling. Exercise care in removing all Legacy parts in case they are to be stored for spare parts.

**S.2.1 LDM CHASSIS 22A5 REMOVAL**

One technician is required for this procedure.

The LDM Chassis is located near the bottom of the UD22 cabinet.

**S.2.1.1 Equipment and Tools Required.**

1. Screwdriver set, phillips-tip
2. Screwdriver set, flat-tip

**S.2.1.2 Initial Conditions/ Preliminary Setup.**

Open the front and rear doors on the UD22 cabinet and locate the 22A5 LDM chassis. Ensure that the LDM cards and power supply are seated firmly and securely retained.

**S.2.1.3 Removal Procedure.**

- a. The power cord and cables coming out of the back of the chassis are to be removed with the chassis. Trace these to where they go and loosen them from the other side and free them up to be removed.
- b. Open and then remove the door covering the front of the chassis to gain access to the chassis' 4 mounting screws. See NWS EHB 6-520 paragraph 6-5.22.2.3 and Figure 6-5.30 if necessary.
- c. While supporting the chassis from the bottom, remove the 4 mounting screws and remove the chassis.
- d. Replace the front door of the chassis and set aside for on-site personnel.

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| SIZE | CAGE CODE | DWG NO. | REV |
| A    | 0WY55     | 2640002 | B   |

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**S.2.2 STANDALONE LDM 22A15, 22A16, 22A17 REMOVAL**

Two technicians are required for this procedure.  
The Standalone LDM's are located near the bottom of the UD22 cabinet.

**S.2.2.1 Equipment and Tools Required**

1. Screwdriver set, phillips-tip
2. Screwdriver set, flat-tip

**S.2.2.2 Initial Conditions/ Preliminary Setup**

Open the front and rear doors on the UD22 cabinet and locate the 22A15, 22A16, and 22A17 standalone LDMs.

**S.2.2.3 Removal Procedure**

- a. Cables at the back of the LDMs are to be removed also. Trace these to where they go, loosen the other side, and free them up to be removed.
- b. While supporting the shelf from the bottom with the help of a second technician, remove the mounting screws and remove the shelf with the LDM's and power strip still mounted.
- c. Set aside for on-site personnel. If the on-site personnel is going to store the LDM's and power strip for spare parts they will probably need to be removed from the shelf by loosening the retaining brackets.
- d. Refer back to Table S.2-1.

**S.2.3 CONVENIENCE PANEL 21A8 REMOVAL**

One technician is required for this procedure.  
The Convenience Panel is located near the middle, rear of the UD21 cabinet.

**S.2.3.1 Equipment and Tools Required.**

1. Screwdriver set, phillips-tip
2. Screwdriver set, flat-tip

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| SIZE | CAGE CODE | DWG NO. | REV |
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**S.2.3.2 Initial Conditions/ Preliminary Setup.**

Open the rear door on the UD21 cabinet and locate the 21A8 Convenience Panel.

**S.2.3.3 Removal Procedure.**

- a. The cables that are mounted to the Convenience Panel are to be removed also. Trace these to where they go and loosen them from the other side and free them up to be removed.
- b. While supporting the Convenience Panel from the bottom, remove the 4 mounting screws and remove Convenience Panel.
- c. Set aside for on-site personnel.
- d. Refer back to Table S.2-1.

**S.2.4 CONCURRENT PROCESSOR CHASSIS 21A3 REMOVAL**

Two technicians are required for this procedure.

The Concurrent Processor Chassis is located near the bottom of the UD21 cabinet.

**S.2.4.1 Equipment and Tools Required.**

1. Screwdriver set, phillips-tip
2. Screwdriver set, flat-tip

**S.2.4.2 Initial Conditions/ Preliminary Setup.**

Open the front and rear doors on the UD21 cabinet and locate the 21A3 Concurrent Processor Chassis.

**S.2.4.3 Removal Procedure.**

- a. Any cables that are still attached to the front or back of the Concurrent Processor Chassis are to be removed also. Trace these to where they go and loosen them from the other side and free them up to be removed.
- b. Remove the mounting screws from the front of the Concurrent Processor Chassis and slide the chassis out the front of the cabinet with the help of a second technician.
- c. Remove the mounting rails from inside the cabinet that supported the Concurrent Processor Chassis from underneath.

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- d. Set the Concurrent Processor Chassis and rails aside for on-site personnel.

## **S.2.5 LOWER FAN PAN ASSEMBLY 21A5 REMOVAL**

Two technicians are required for this procedure.

The Lower Fan Pan Assembly is located at the bottom of the UD21 cabinet.

### **S.2.5.1 Equipment and Tools Required.**

1. Screwdriver set, phillips-tip
2. Screwdriver set, flat-tip

### **S.2.5.2 Initial Conditions/ Preliminary Setup.**

Open the front and rear doors on the UD21 cabinet and locate the 21A5 Lower Fan Pan Assembly.

### **S.2.5.3 Removal Procedure.**

- a. The power cord and cables that are still attached to Lower Fan Pan Assembly are to be removed also. Trace these to where they go and loosen them from the other side and free them up to be removed.
- b. Loosen the mounting screws on the front of the Lower Fan Pan Assembly and slide it out the front of the cabinet with the help of another technician.
- c. Remove the mounting rails from inside the cabinet that supported the Lower Fan Pan Assembly from underneath.
- d. Set the Lower Fan Pan Assembly and rails aside for on-site personnel. If the on-site personnel is going to store the fans and filter for spare parts they will probably need to be removed from the assembly.

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| SIZE | CAGE CODE | DWG NO. | REV |
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**S.3 Legacy Parts Not Reused**

The following items will not be reused for ORPG and should NOT be sent back to the NRC with the cabinets. These items should be removed and left on site for local disposal. Any complement of this list may be present at a given site. Any items not to be reused and therefore left in the cabinet should also be removed from the cabinet even if not on this list before the cabinet is shipped.

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| SIZE  | CAGE CODE | DWG NO.   | REV    |
| A     | 0WY55     | 2640002   | B      |
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**Table S. 3-1 Legacy Parts Not Reused**

| <b>PART NUMBER</b> | <b>LEGACY REF DES</b>     | <b>DESCRIPTION</b>   |
|--------------------|---------------------------|--|
| 01-W3840B-01       | 21A4A1, 21A4A15 (w/ 21A4) | CIRCUIT CARD ASSEMBLY, ISDN PRIMARY RATE CONTROLLER (WIDEBAND) |
| 1213457-302        | W225                      | CABLE ASSEMBLY   |
| 1213482-304        | 22W3                      | CABLE ASSEMBLY   |
| 1213482-305        | 22/122W4                  | CABLE ASSEMBLY   |
| 1213482-306        | 22W5                      | CABLE ASSEMBLY   |
| 1213505-302        | 22/122W81                 | CABLE ASSEMBLY   |
| 1213505-303        | 22/122W83                 | CABLE ASSEMBLY   |
| 1213685-302        | 22W2                      | CABLE ASSEMBLY   |
| 1213685-304        | 22/122W87 *               | CABLE ASSEMBLY   |
| 1213830-305        | 22/122W38                 | CABLE ASSEMBLY   |
| 1213830-306        | 22/122W39                 | CABLE ASSEMBLY   |
| 1213891-301        | 22W8                      | CABLE ASSEMBLY   |
| 1213893-311        | 22/122W28                 | CABLE ASSEMBLY, AUDIO LINES                                    |
| 1213893-316        | 22/122W72                 | CABLE ASSEMBLY,  |
| 1213893-320        | 22/122W41                 | CABLE ASSEMBLY, AUDIO LINES                                    |
| 1213893-321        | 22/122W42                 | CABLE ASSEMBLY,  |
| 1213893-333        | W260                      | CABLE ASSEMBLY   |
| 1213899-302        | 22/122W70                 | CABLE ASSEMBLY   |
| 1213899-307        | 22/122W152, 22/122W153    | CABLE ASSEMBLY   |
| 1213899-309        | 22/122W154                | CABLE ASSEMBLY   |
| 1214789-304        | 22/122W34                 | CABLE ASSEMBLY   |
| 1214868-301        | W201                      | CABLE ASSEMBLY   |
| 1214868-302        | W202                      | CABLE ASSEMBLY   |
| 1214871-301        | W222                      | CABLE ASSEMBLY   |
| 1214871-302        | W223                      | CABLE ASSEMBLY   |
| 1214871-314        | W237                      | CABLE ASSEMBLY   |
| 1214871-315        | W241                      | CABLE ASSEMBLY   |
| 1214871-316        | W242                      | CABLE ASSEMBLY   |
| 1214871-317        | W243                      | CABLE ASSEMBLY   |
| 1214871-318        | W244                      | CABLE ASSEMBLY   |
| 1214871-319        | 32W1                      | CABLE ASSEMBLY   |
| 1214871-320        | 32W2                      | CABLE ASSEMBLY   |
| 1214871-321        | 32W3                      | CABLE ASSEMBLY   |
| 1214871-322        | 32W4                      | CABLE ASSEMBLY   |
| 1214871-323        | 32W5                      | CABLE ASSEMBLY   |
| 1214880-302        | 22/122W31                 | CABLE ASSEMBLY   |
| 1214896-301        | W220                      | CABLE ASSEMBLY   |
| 1217037-301        | 22/122W99                 | CABLE ASSEMBLY   |
| 1217039-XXX        | 22/122W86                 | CABLE ASSEMBLY   |
| 1217040-301        | 22/122W85                 | CABLE ASSEMBLY   |

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| PART NUMBER | LEGACY REF DES           | DESCRIPTION                          |
|-------------|--------------------------|--------------------------------------|
| 1217758-204 |                          | KEYBOARD MASK                        |
| 1217804-303 | 22/122W57                | CABLE ASSEMBLY                       |
| 1217816-301 | W252                     | CABLE ASSEMBLY                       |
| 1218209-303 | W200                     | CABLE ASSEMBLY                       |
| 1218758-101 | 22J24 (w/22A15-A17)      | POWER STRIP ASSEMBLY, MODIFIED       |
| 1218794-301 | 22/122W155               | CABLE ASSEMBLY                       |
| 1218795-301 | W2                       | CABLE ASSEMBLY                       |
| 1218795-302 | W3                       | CABLE ASSEMBLY                       |
| 1218795-303 | W224                     | CABLE ASSEMBLY                       |
| 1219653-303 | W209                     | CABLE ASSEMBLY                       |
| 1219653-306 | W209                     | CABLE ASSEMBLY                       |
| 1219654-301 | W209                     | CABLE ASSEMBLY                       |
| 1219654-302 | W209                     | CABLE ASSEMBLY                       |
| 1219654-303 | W209                     | CABLE ASSEMBLY                       |
| 1219654-304 | W209                     | CABLE ASSEMBLY                       |
| 1219656-304 | W229                     | CABLE ASSEMBLY                       |
| 1219716-302 |                          | CABLE ASSEMBLY, GROUND               |
| 1219716-304 |                          | CABLE ASSEMBLY, GROUND               |
| 1221203-530 | 22/122W76 THRU 22/122W79 | CABLE ASSEMBLY, 156 IN LG            |
| 1221204-301 | 22/122W155               | CABLE ASSEMBLY                       |
| 1221217-301 | 22/122W54                | CABLE ASSEMBLY                       |
| 1222302-302 | 22/122W201               | CABLE ASSEMBLY, 96 IN LG             |
| 1222302-303 | 22/122W76                | CABLE ASSEMBLY, 96 IN LG             |
| 1222302-306 | 22/122W76 THRU 22/122W79 | CABLE ASSEMBLY, 135 IN LG            |
| 1222302-307 | 22/122W76 THRU 22/122W79 | CABLE ASSEMBLY, 170 IN LG            |
| 1222325-302 | 22W6                     | CABLE ASSEMBLY                       |
| 1222326-302 | 22W7                     | CABLE ASSEMBLY                       |
| 1222326-304 | 22W90                    | CABLE ASSEMBLY                       |
| 1222327-302 | 21/121W80                | CABLE ASSEMBLY                       |
| 1222330-302 | 22/122W81                | CABLE ASSEMBLY                       |
| 1222332-301 | W219                     | CABLE ASSEMBLY                       |
| 1222362-301 |                          | CABLE, GROUND                        |
| 1222423-302 |                          | CABLE ASSEMBLY, NARROWBAND INTERFACE |
| 1222424-302 | 21A4W2                   | CABLE ASSEMBLY, WIDEBAND INTERFACE   |
| 1223381-303 | W238                     | CABLE ASSEMBLY                       |
| 1223381-304 | 32W6                     | CABLE ASSEMBLY                       |
| 1223383-302 | W221                     | CABLE ASSEMBLY                       |
| 1223383-303 | 32W7                     | CABLE ASSEMBLY                       |
| 1223454-302 | W261                     | CABLE ASSEMBLY                       |
| 1223454-303 | W262                     | CABLE ASSEMBLY                       |
| 1224039-301 | W218                     | CABLE ASSEMBLY                       |
| 1224039-302 | W216                     | CABLE ASSEMBLY                       |
| 1224060-302 | W216                     | CABLE ASSEMBLY                       |

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| PART NUMBER        | LEGACY REF DES                  | DESCRIPTION  |
|--------------------|---------------------------------|--|
| 1224060-304        | W216                            | CABLE ASSEMBLY   |
| 1224061-306        | W226                            | CABLE ASSEMBLY   |
| 12V-819-R20J12MP75 | 21A4                            | VME CHASSIS ASSEMBLY   |
| 14-127F00MXXRXX    | 21A8                            | CONVENIENCE PANEL  |
| 14-847F00MXXRXX    | 5A5MP21 (w/ 21A9, 21A12)        | COVER, SCSI  |
| 17-688F01MXXRXX    |                                 | CABLE, DUAL COAXIAL  |
| 17-692F00MXXRXX    | 21A5A1W1                        | CABLE ASSEMBLY   |
| 17-704F01MXXRXX    |                                 | CABLE, FAN POWER   |
| 17-704F02MXXRXX    |                                 | CABLE, FAN POWER   |
| 17-705F00MXXRXX    |                                 | CABLE ASSEMBLY   |
| 17-709F02MXXRXX    |                                 | CABLE ASSEMBLY   |
| 17-783F00MXXRXX    |                                 | CABLE ASSEMBLY   |
| 17-835F00MXXRXX    |                                 | CABLE ASSEMBLY, GROUND STRAP   |
| 17-852F02MXXRXX    | 21W71 THRU 21W73                | CABLE ASSEMBLY   |
| 17-854F00MXXRXX    |                                 | CABLE, EXTERNAL/CRT, 25 FT   |
| 17-888F02MXXRXX    | 21W74                           | CABLE ASSEMBLY, MPC SHIELD   |
| 17-926F02MXXRXX    |                                 | CABLE ASSEMBLY, IPC, SCSTENCLOSURE   |
| 17-989F04MXXRXX    |                                 | CABLE ASSEMBLY   |
| 17-989F07MXXRXX    |                                 | CABLE ASSEMBLY   |
| 17-989FXXMXXRXX    | 21W60                           | CABLE  |
| 17-AAQF05MXXRXX    | 21W13-05                        | CABLE, TRANS LINE  |
| 184-00016-00       | 21A5A1 (w/ 21A5)                | FAN PAN (LOWER) ASSEMBLY   |
| 202660             | 21A3A19 (w/21A3)                | MODULE, VCI-C  |
| 21055              | 21                              | DATA MODEM, STANDALONE   |
| 224001             | 21A4A14                         | MODULE, VCI-V  |
| 2300004-301        | 22A37                           | TERMINAL BOARD (FAA RMS)   |
| 2320013-301        | 22/122A37W1                     | CABLE ASSEMBLY (FAA RMS)   |
| 2330000-301        | 21/121A4W2 (w/21A4)             | CABLE ASSEMBLY (FAA RMS)   |
| 2500025-30         | 21A4                            | FAA MODIFIED VME CHASSIS ASSEMBLY  |
| 27-199F00MXXRXX    | 21A9A1, 21A12A1 (w/21A9, 21A12) | TAPE DRIVE, 1/4 IN. (Can not be replaced with tape drive PN 27-192F -- due to media density compatibility, only replace with tape drive 27-199F00) |
| 27-204F00MXXRXX    | 21A9A2, 21A12A2 (w/21A9, 21A12) | DISK DRIVE, 600MB  |
| 27-211F01MXXRXX    | 24                              | MONITOR, CDT100  |
| 27-212F01MXXRXX    | 24A1                            | KEYBOARD, CDT100   |
| 28200              | 22A15 THRU 22A17                | MODEM, LIMITED DISTANCE, STANDALONE  |
| 28478              | 22A5A1 THRU 22A5A3              | MODEM, LIMITED DISTANCE  |
| 30-00087           | 21A17A2 (w/21A17)               | CONVERTER, AC/DC   |
| 320226             |                                 | CABLE ASSEMBLY, INTERCONNECTING, VCI-V TO VCI-C  |
| 33-053F00MXXRXX    | 21A9DS1 (w/21A9, 21A12)         | LED (28480) (ALT PN HLMP-3300)   |
| 35-583F00MXXRXX    | 21A3A14 (w/21A3)                | CIRCUIT CARD ASSEMBLY, DIGITAL I/O   |

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| PART NUMBER              | LEGACY REF DES                                  | DESCRIPTION   |
|--------------------------|---|---|
| 35-732F00MXXRXX          | 21A3A18 (w/21A3)                                | CIRCUIT CARD ASSEMBLY, SELECTOR CHANNEL                 |
| 35-813F01MXXRXX          | 21A3A14, 21A3A15, 21A3A18 THRU 21A3A11 (w/21A3) | CIRCUIT CARD ASSEMBLY, I/O TERMINATOR                   |
| 35-814F01MXXRXX          | 21A3A16 (w/21A3)                                | CIRCUIT CARD ASSEMBLY, DMA TERMINATOR                   |
| 35-814F02MXXRXX          | 21A3A17 (w/21A3)                                | CIRCUIT CARD ASSEMBLY, DMA TERMINATOR                   |
| 35-881F00MXXRXX          | 21A5A1A1 (w/21A5)                               | FAN SENSOR BOARD  |
| 35-886F00MXXRXX          | 21A3A11 (w/21A3)                                | CIRCUIT CARD ASSEMBLY, TERMINATOR, S BUS                |
| 35-896F00MXXRXX          | 21A15   | CIRCUIT CARD ASSEMBLY, CDS PATCH PANEL                  |
| 35-910F01MXXRXX          | 21A3A20 (w/21A3)                                | CIRCUIT CARD ASSEMBLY, MULTIPERIPHERAL CONTROLLER W/IPL |
| 35-941F00M01RXX          | 21A3A5 (w/21A3)                                 | CIRCUIT CARD ASSEMBLY, DIRECT MEMORY INTERFACE          |
| 35-955F01MXXRXX          | 21A3A21 (w/21A3)                                | CIRCUIT CARD ASSEMBLY, CLOCK DISTRIBUTION, S BUS        |
| 35-AAMFXXMXXRXX          | 21A3A4 (w/21A3)                                 | MICRO 5 PROCESSOR ASSEMBLY                              |
| 35-ABIF09MXXRXX          | 21A3A6 21A3A7 21A3A8 (w/21A3)                   | CIRCUIT CARD ASSEMBLY, CMM, ZIP MEMORY                  |
| 35-ADLF00MXXRXX          | 21A3A12, 21A3A13 (w/21A3)                       | TERMINATOR BOARD W/BUS                                  |
| 36-049F00MXXRXX          | 21A5A1B1 THRU 21A5A1B4 (w/21A5)                 | FAN ASSEMBLY  |
| 4600-02                  | 26  | 10 CHANNEL STAT MUX AT THE UCP                          |
| 4710NL04WB30-D00         | 21A4A24B1 THRU 21A4A24B3 (w/21A4)               | FAN ASSEMBLY, RPG VME CHASSIS                           |
| 55729-06                 | 22W121, 22W122, 22W123, 22W124                  | CABLE ASSEMBLY  |
| 60334                    | 22A1  | 10 CHANNEL STAT MUX                                     |
| 80400/21202              | 22A1, 22A2                                      | 21 SLOT BACKPLANE & RACK                                |
| 8-1544-RM-1              | 21A17/MPT (w/21A17)                             | RACKMOUNT   |
| 92-623F00MXXRXX, (ML184) | 29  | PRINTER   |
| 93-527F00MXXRXX          | 21A9A4, 21A12A4 (w/21A9, 21A12)                 | SCSI ENCLOSURE ASSEMBLY W/POWER SUPPLY                  |
| 93-549F00MXXRXX          | 21A5  | FAN PANEL ASSEMBLY, LOWER                               |
| 93-626F00MXXRXX          | (w/21A9, 21A12)                                 | FAN PANEL ASSEMBLY, SCSI                                |
| 93-AAYF00MXXRXX          | 21PS1   | SWINGOUT POWER SUBSYSTEM                                |
| 93-ABSF00MXXRXX          | 21A3A3 (w/21A3)                                 | TEMP SENSE ASSEMBLY, UPPER CHASSIS                      |
| 93-ADLF00MXXRXX          | 21A9A1MS3 (w/21A9, 21A12)                       | COVER, FRONT PANEL                                      |
| 93-ADOF00MXXRXX          | (w/21A3)  | BUS STRIP   |

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| PART NUMBER                           | LEGACY REF DES                     | DESCRIPTION                                       |
|---------------------------------------|------------------------------------|---|
| 95-580F00MXXRXX                       | 21W74                              | CABLE, FAN ADAPTER                                |
| 95-636F00MXXRXX                       | 21W69 21W70                        | CABLE ASSEMBLY                                    |
| 96-162F01M00R13 OR<br>96-162F01M01R06 | 21A3A17 (w/21A3)                   | CIRCUIT CARD ASSEMBLY, OPTICAL DISK<br>CONTROLLER |
| 97-249F00MXXRXX                       | 21A9A3, 21A12A3 (w/21A9,<br>21A12) | OPTICAL DISC DRIVE                                |
| COHP-150                              | AT DEMARC PANEL                    | ARRESTOR, ELECTRICAL SURGE<br>PROTECTOR           |
| EY-2189-I                             | W220                               | CABLE ASSEMBLY                                    |
| EY-3195-F                             | W228                               | CABLE ASSEMBLY                                    |
| EY-4073-A                             | W239                               | CABLE ASSEMBLY                                    |
| EY-4195-H                             | W263                               | CABLE ASSEMBLY                                    |
| EY-4195-I                             | W264                               | CABLE ASSEMBLY                                    |
| F-1544-200B-11                        | 21A17A1                            | CHANNEL SERVICE UNIT                              |
| FV5310MG03                            | 21A4A2 THRU 21A4A13<br>(w/21A4)    | CHANNEL SERVICE UNIT                              |
| M24308/2-2                            | 22/122W5/P1                        | CONNECTOR   |
| M24308/2-3                            | 22/122W5/J6                        | CONNECTOR   |
| MAX-/53-0512P                         | 21A4A24PS1 (w/21A4)                | POWER SUPPLY, RPG VME CHASSIS                     |
| MGB                                   |                                    | ARRESTOR, GROUNDING BAR                           |
| SW023A-FFF                            | 34A5                               | SWITCH, EMI ABC-25 (63793) (ALT PN<br>DH0625)     |
| SW184A                                | 33                                 | SWITCH, ABC                                       |

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**Attachment T: Acronym List**

|        |  |
|--------|--|
| AC     | Alternating Current                            |
| AFALC  | Air Force Air Logistics Center                 |
| AETC   | AFB Training Command                           |
| ASN    | Agency Stock Number                            |
| AWIPS  | Advanced Weather Interactive Processing System |
| BDDS   | Base Data Distribution Server                  |
| CD     | Commerce Department                            |
| CONUS  | Continental United States                      |
| CSU    | Channel Service Unit                           |
| DCE    | Data Communications Equipment                  |
| DOC    | Department of Commerce                         |
| DOD    | Department of Defense                          |
| DOT    | Department of Transportation                   |
| DTE    | Data Terminal Equipment                        |
| EHB    | Engineering Handbook                           |
| ESA    | Electronic Systems Analyst                     |
| ESD    | Electrostatic Discharge                        |
| HVAC   | Heating Ventilation Air Conditioning           |
| INCO   | Installation and Checkout                      |
| IP     | Internet Protocol                              |
| ISSL   | Initial Support Spares List                    |
| LAN    | Local Area Network                             |
| LDM    | Limited Distance Modem                         |
| MSCF   | Master System Control Function                 |
| MLOS   | Microwave Line of Sight                        |
| NWSTC  | National Weather Service Training Center       |
| NEXRAD | Next Generation Weather Radar                  |
| NLSC   | National Logistics Support Center              |
| NRC    | National Reconditioning Center                 |
| NSN    | National Stock Number                          |
| ORPG   | Open Systems Radar Product Generation          |
| PCI    | Peripheral Component Interconnect              |
| P/N    | Part Number                                    |
| POC    | Point of Contact                               |
| RBDDS  | Remote Base Data Distribution Server           |
| RDA    | Radar Data Acquisition                         |

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|---------|--|
| RPGOP   | Radar Product Generation Operational Position              |
| RMS     | Remote Monitoring Subsystem                                |
| ROC     | Radar Operations Center (formerly named OSF)               |
| RPG     | Radar Product Generation                                   |
| RPGPCA  | Radar Product Generation Processor/Communications Assembly |
| SAD     | System Allocation Documents                                |
| SCSI    | Small Computer System Interface                            |
| SERD    | Support Equipment Requirement Data                         |
| STATMUX | Statistical Multiplexer                                    |
| TAPN    | Top Assembly Part Number                                   |
| TCP     | Transmission Control Protocol                              |
| TELCO   | Telephone Company  |
| UD      | Unit Designation   |
| UCP     | Unit Control Position                                      |
| WFO     | Weather Forecast Office                                    |
| WSFO    | Weather Service Forecast Office                            |
| WSR-88D | Weather Surveillance Radar 1988 Doppler                    |

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## Attachment U: Rewiring Demarcation Panel

### U.1 General Information

This attachment contains procedures for rewiring telephone demarcation blocks to support a reduction, and rearrangement, of dial and dedicated telephone circuits. Details are provided on how to identify and mark circuits, how to remove circuits from the blocks, and how to reattach the circuits.

#### NOTE

**The word “demarcation” will be shortened to its more commonly used term of “demarc” from this point forward.**

The telephone demarc blocks are mounted on the wall of the RDA/RPG shelter at DOD/FAA sites and are on a building wall at NWS sites. These blocks interface each modem inside the RPG cabinet to the respective telephone service provider(s). The demarc blocks are standard 66B punch blocks containing 50 rows of terminals.

The dial demarc block is arranged to support two-wire circuits. This means two terminals on the demarc block represent one dial line circuit. Starting at the top, terminals one and two correspond to dial line one, terminals three and four correspond to dial line two, and so forth. Since there are 50 rows of terminals, the dial block arrangement supports a maximum of 25 dial line circuits. Refer to Figure U.1 at the end of this section for a map of the dial block.

The dedicated (leased line) demarc blocks are arranged to support four-wire circuits. This means four terminals on the demarc block represent one dedicated circuit. Starting at the top, terminals one through four correspond to dedicated line one, terminals five through eight correspond to dedicated line two, and so forth. Since there are 50 rows of terminals, the dedicated block arrangement supports a maximum of 12 dedicated circuits per block. Refer to Figure U.1 at the end of this section for a map of the dedicated blocks.

### U.2 Identification of Demarc Blocks

#### U.2.1 NWS Systems.

The following matrix provides the cable traceability from the RPG Cabinet I/O panel (located on the bottom of the cabinets, left, rear) jacks to the demarc blocks. The matrix also provides information on possible demarc block labeling. While this provides traceability to the initial demarc location adjacent to the RPG cabinets, in many cases, the rewiring may actually be done within a building phone room on blocks that provide an intermediate interconnection point from individual circuits to a 25-pair cable. That will be discussed in the details below.

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| <b>RPG I/O Panel Jack</b> | <b>Usage</b> | <b>Cable #</b> | <b>Cable Labels</b> | <b>Demarc Cabinet Block Labels</b> |
|---------------------------|--------------|----------------|---------------------|------------------------------------|
| J1                        | Ded. 2-12    | W201           | Leased Lines        | Leased Lines or 2-RJ2DX            |
| J2                        | Dial 1-8     | W202           | Dial Lines          | Dial Lines or 1-RJ21X              |
| J3                        | Ded. 13-16   | W230           | Leased Line 2       | Leased Line 2 or 4-RJ2DX           |

For NWS systems, dedicated circuit one would be available but not normally used since its corresponding modem rack slot is empty.

### U.2.2 DOD Systems

The following matrix provides the cable traceability from the RPG Cabinet I/O panel (located on the bottom of the cabinets, left, rear) jacks to the demarc blocks mounted on the RDA/RPG shelter wall. The matrix also provides information on possible demarc block labeling.

| <b>RPG I/O Panel Jack</b> | <b>Usage</b> | <b>Cable #</b> | <b>Cable Labels</b> | <b>Shelter Wall Block Labels</b> |
|---------------------------|--------------|----------------|---------------------|----------------------------------|
| J1                        | Ded. 1-12    | W44            | Leased Lines        | Leased Lines or 2-RJ2DX or TB2   |
| J2                        | Dial 1-8     | W45            | Dial Lines          | Dial Lines or 1-RJ21X or TB1     |
| J3                        | Ded. 13-17   | W46            | Leased Line 2       | Leased Line 2 or 4-RJ2DX or TB4  |

For DOD systems, leased line 17 (fifth circuit on the second dedicated block) is always the MSCF modem link.

### U.2.3 FAA Systems

For FAA systems, the circuits first go to the relay box from each RPG channel, then go from the relay box to the demarc blocks. The following matrix provides the cable traceability from the relay box jacks to the demarc blocks mounted on the RDA/RPG shelter wall and provides information on possible demarc block labeling.

|      |           |         |     |
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| Relay Box Jack | Usage      | Cable # | Cable Labels     | Shelter Wall Block Labels |
|----------------|------------|---------|------------------|---------------------------|
| J14            | Ded. 1-12  | W44     | TB2-Leased Lines | TB2                       |
| J15            | Dial 1-8   | W45     | TB1-Dial Lines   | TB1                       |
| J16            | Ded. 13-17 | W46     | TB4-Leased Lines | TB4                       |

For FAA systems, leased line 17 (fifth circuit on the second dedicated block) is always the MSCF modem link.

### U.3 Assumptions

1. The first assumption is that two telecommunications circuits reports have been obtained. Refer to [Section 15.2](#) of this document for procedures on how to download these two circuit reports from the Internet. One report depicts the circuit layouts on the demarc before rewiring and the second report depicts the circuit layouts on the demarc after rewiring. These two circuit reports are called “pre-Engineering Change Proposal (ECP)” and “post-ECP” in the procedures below.
2. The second assumption is that Attachment D checks resolved conflict between the “pre-ECP” telecommunications circuit report and actual circuit locations as they are punched on the NEXRAD demarc blocks.
- c. The third assumption is that end users connection status for all dedicated circuits (associated users) were “CONNECT.” Further, all RPG dial-in circuits were tested by the WSR-88D Hotline and any problems found with the dial circuits will be resolved by the Hotline and the site technicians. . All exceptions should be noted. If a circuit will not be used after rewiring, it does not need to be tested. Circuits that should be functional before rewiring, but were not, should be identified to site technicians for repair action.
3. The final assumption is that site technicians will be available to provide assistance and will be involved in this process.

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## U.4 Procedures

### U.4.1 Getting Started

- STEP 1.** Locate the old and new circuit reports for this site. Also, refer to Figure U.1 if needed to map individual circuits on the reports to the corresponding terminals wired on the NEXRAD demarc blocks. Use the two copies of Figure U.1 (copied per paragraph A.8) in the subsequent steps for documenting pre- and post- punchdowns.
- STEP 2.** Locate the RPG demarc cabinet assembly and demarc blocks (NWS) or the demarc block locations within the shelters (DOD or FAA). Refer to Section U.2 above to identify the correct blocks.
- STEP 3.** For DOD and FAA sites, determine if the external cabinet to demarc cables are presently installed to support the use of the 4-RJ2DX block (Leased Line 2" or "TB4"):
- DOD - W46 (cabinet I/O panel J3 to demarc block "Leased Line 2")  
FAA - W46 (relay box to demarc block "TB4")  
FAA - W171 (Channel 1, UD170 cabinet I/O panel J3 to relay box)  
FAA - W164 (Channel 2, UD70 cabinet I/O panel J3 to relay box)

#### NOTE

If these cables are installed. While it is not critical for actually rewiring the demarc blocks, these cables must be installed before the Distant MSCF link will work.

- STEP 4.** For NWS sites, determine if additional intermediate demarcation points exist between the NEXRAD RPG demarc blocks and the telephone company block(s). If circuits are individually wired to the blocks at the RPG demarc blocks directly from the phone company blocks, then rewiring will occur at the RPG demarc blocks. If there is an intermediate demarc, then the RPG blocks are connected via 25-pair cables from a central phone room. In the latter case, the site technician must identify the demarc blocks in the phone room associated with the blocks in the RPG demarc cabinet assembly, and rewiring must be made at the intermediate demarc blocks.

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## U.4.2 Dial Block Rewiring

- STEP 1.**      **Locate the 1-RJ21X dial demarc block (or if applicable locate the intermediate dial demarc).**
- STEP 2.**      **Note the side that has individual circuit connections. For dial circuits, every two wires constitutes a circuit and the circuits begin at the top of the block. In most cases, a consistent color pattern will be used for each two wire circuit. For example, white/blue and blue/white. Refer to Figure U.1 at the end of this procedure for the standard dial wiring on NEXRAD demarc blocks.**
- STEP 3.**      **Note any dial circuits that do not need to be moved. Typically, the first four dial circuits will not be moved, but verify by comparing the “pre-ECP” and “post-ECP” circuit reports before proceeding.**
- STEP 4.**      **If necessary, remove the COHP-200 surge suppressors. Set them aside for future use.**
- STEP 5.**      **Beginning at the first dial circuit to be relocated, remove two wires at a time. Group each pair of two wires together, and annotate with a label denoting the Usage/Connectivity descriptor shown on the old circuit report. Route the labeled pair off to the side.**
- STEP 6.**      **Repeat steps 4. and 5. until all dial circuits, which are to be relocated, are detached from the punch block.**
- STEP 7.**      **Locate the new circuit report.**
- STEP 8.**      **Note the first relocated dial line on the new circuit report. Locate the labeled wire pair, which was annotated in step 5.**
- STEP 9.**      **Using punch down tool, punch this circuit to the two new terminals on the demarc block.**
- STEP 10.**     **Repeat steps 8. and 9. for any remaining dial circuits that are to be relocated.**

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- STEP 11.** For the removed two-wire pairs that are not to be reused, bundle/tiewrap them together off to the side (insulate any bare wires ends). Inform the site technicians that these are unused circuits so that they can remove these back to commercial phone company blocks should they chose to do so.
- STEP 12.** If previously removed, reinstall the COHP-200 surge suppressors on the eight dial circuit locations on the block. Since a surge suppressor covers two wire terminals, one suppressor is used for each dial circuit.

#### U.4.3 Dedicated Block(s) Rewiring

- STEP 1.** Locate the 2-RJ2DX “Leased Lines” or “TB2” demarc block (or if applicable locate the intermediate dial demarc).
- STEP 2.** Note the side that has individual circuit connections. For dedicated circuits, every four wires constitutes a circuit and the circuits begin at the top of the block. In most cases, a consistent color pattern will be used for each four wire circuit. For example, white/blue, blue/white, white/orange, and orange/white. Refer to Figure U.1 at the end of this procedure for the standard dedicated wiring on NEXRAD demarc blocks.
- STEP 3.** If necessary, remove the COHP-150 surge suppressors. Set them aside for future use.
- STEP 4.** Beginning at the top, record the specific color pattern sequence of the first four wires, then remove the first four wires. Group the four wires together, annotate a label with the Usage/Connectivity descriptor shown on the old circuit report and wrap the label around the four wires. Route these wires off to the side. (NOTE: It is important to record the specific color pattern sequence, so this sequence can be duplicated when the circuit is punched in its new location.)
- STEP 5.** Repeat step 4. for the remaining circuits until all dedicated circuits are removed from the first dedicated block.
- STEP 6.** Determine if any circuits are presently attached to the 4-RJ2DX “Leased Line 2” or “TB4” demarc block (physical inspection of block and/or review the old circuit report). If not, proceed to step 8.
- STEP 7.** Repeat steps 3 and 4 for any circuits attached to the second dedicated block.

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- STEP 8.**      **Locate the new circuit report.**
- STEP 9.**      **Note the first dedicated (or leased) line on the new circuit report. Locate the corresponding four-wires which were annotated in step 4. Also, review the color pattern sequence of the wires in that group (annotated in step 4).**
- STEP 10.**     **Using punch down tool, punch this circuit to four terminals on the first dedicated demarc block. Duplicate the exact color pattern sequence that was used in the original circuit location. For DOD and FAA sites, this will be the first four terminals. For NWS sites, skip the first four terminals. Start instead at terminal locations 5 through 8. The new circuit report will not show a “DED 01” circuit for NWS sites.**
- STEP 11.**     **Repeat steps 9. and 10. for the remaining four-wire dedicated circuits on the first dedicated demarc block and the second block (if there are corresponding circuits shown on the on new circuit report). For DOD and FAA sites, the fifth circuit (terminals 17 through 20) on the second block will always be the dedicated circuit to the Distant MSCF. On the old circuit report, this circuit will be denoted as the “UCP” circuit.**
- STEP 12.**     **For removed four-wire circuits, which are not reused, bundle/tiewrap them together off to the side (insulate any bare wires ends). Inform the site technicians that these are unused circuits so that they can remove these back to commercial phone company blocks should they chose to do so.**
- STEP 13.**     **If previously removed, reinstall the COHP-150 surge suppressors on the blocks for every location that has a dedicated circuit attached Since a surge suppressor covers two wire terminals, two suppressors are used for each dedicated circuit.**

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**Dial Lines  
1-RJ21X or TB1**

|            |    |
|------------|----|
| D/U Ckt 01 | 01 |
|            | 02 |
| D/U Ckt 02 | 03 |
|            | 04 |
| D/U Ckt 03 | 05 |
|            | 06 |
| D/U Ckt 04 | 07 |
|            | 08 |
| D/U Ckt 05 | 09 |
|            | 10 |
| D/U Ckt 06 | 11 |
|            | 12 |
| D/U Ckt 07 | 13 |
|            | 14 |
| D/U Ckt 08 | 15 |
|            | 16 |
| D/U Ckt 09 | 17 |
|            | 18 |
| D/U Ckt 10 | 19 |
|            | 20 |
| D/U Ckt 11 | 21 |
|            | 22 |
| D/U Ckt 12 | 23 |
|            | 24 |
| D/U Ckt 13 | 25 |
|            | 26 |
| D/U Ckt 14 | 27 |
|            | 28 |
| D/U Ckt 15 | 29 |
|            | 30 |
| D/U Ckt 16 | 31 |
|            | 32 |
|            | 33 |
|            | 34 |
|            | 35 |
|            | 36 |
|            | 37 |
|            | 38 |
|            | 39 |
|            | 40 |
|            | 41 |
|            | 42 |
|            | 43 |
|            | 44 |

**Ded/Leased Lines 2-  
RJ2DX or TB2, 4-  
RJ2DX or TB4**

|    |               |
|----|---------------|
| 01 | DED Ckt 01*   |
| 02 | *Not used for |
| 03 | NWS           |
| 04 |               |
| 05 |               |
| 06 | DED Ckt 02    |
| 07 |               |
| 08 |               |
| 09 |               |
| 10 | DED Ckt 03    |
| 11 |               |
| 12 |               |
| 13 |               |
| 14 | DED Ckt 04    |
| 15 |               |
| 16 |               |
| 17 |               |
| 18 | DED Ckt 05    |
| 19 |               |
| 20 |               |
| 21 |               |
| 22 | DED Ckt 06    |
| 23 |               |
| 24 |               |
| 25 |               |
| 26 | DED Ckt 07    |
| 27 |               |
| 28 |               |
| 29 |               |
| 30 | DED Ckt 08    |
| 31 |               |
| 32 |               |
| 33 |               |
| 34 | DED Ckt 09    |
| 35 |               |
| 36 |               |
| 37 |               |
| 38 | DED Ckt 10    |
| 39 |               |
| 40 |               |
| 41 |               |
| 42 | DED Ckt 11    |
| 43 |               |
| 44 |               |

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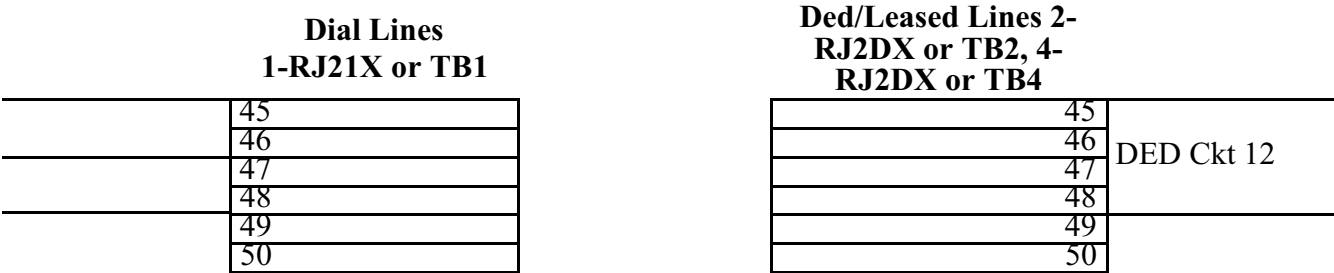


Figure U.1 - NEXRAD 66B Punch Block Wiring for 2-Wire Dial and 4-Wire Dedicated Ckts

**Attachment V: Site Effectivity**

This INCO Plan is applicable to the following list of WSR-88D sites:

| <b>RPG<br/>ORG<br/>CODE</b> | <b>RPG<br/>KIT<br/>NUMBER</b> | <b>SITE NAME</b>      | <b>SUBNET<br/>ID</b> | <b>MSCF<br/>ORG<br/>CODE</b> | <b>MSCF<br/>KIT<br/>NUMBER</b> | <b>MSCF<br/>LOCATION</b> | <b>RBDDS<br/>ORG<br/>CODE</b> | <b>REMOTE<br/>BDDS<br/>KIT<br/>NUMBER</b> | <b>RBDDS<br/>LOCATION</b> | <b>NUMBER<br/>OF<br/>PERSONNEL<br/>REQUIRED<br/>FOR<br/>INSTALL</b> |
|-----------------------------|-------------------------------|-----------------------|----------------------|------------------------------|--------------------------------|--------------------------|-------------------------------|---|---------------------------|---|
| WR9659                      | RPG-301                       | ABERDEEN WSO          | 1                    | WR9659                       | MSCF-301                       | ABERDEEN WSO             | N/A                           | N/A                                       | N/A                       | 2   |
| WN9518                      | RPG-301                       | ALBANY WSFO           | 40                   | WN9518                       | MSCF-301                       | ALBANY WSFO              | N/A                           | N/A                                       | N/A                       | 2   |
| WP9365                      | RPG-301                       | ALBUQUERQUE WSFO      | 2                    | WP9365                       | MSCF-301                       | ALBUQUERQUE WSFO         | N/A                           | N/A                                       | N/A                       | 2   |
| FE4419                      | RPG-302                       | ALTUS AFB             | 48                   | WP9921                       | MSCF-302                       | NORMAN WSFO              | N/A                           | N/A                                       | N/A                       | 3   |
| WP9363                      | RPG-301                       | AMARILLO WSO          | 4                    | WP9363                       | MSCF-301                       | AMARILLO WSO             | N/A                           | N/A                                       | N/A                       | 2   |
| 6901AJ                      | RPG-303                       | ANCHORAGE FAA (RPG 1) | 148                  | WV9904                       | MSCF-302                       | ANCHORAGE WFO            | N/A                           | N/A                                       | N/A                       | 4   |
| 6901AJ                      | RPG-304                       | ANCHORAGE FAA (RPG 2) | 148                  | N/A                          | N/A                            | N/A                      | N/A                           | N/A                                       | N/A                       | -   |
| FE5240                      | RPG-302                       | ANDERSEN AFB          | 62                   | N/A                          | N/A                            | N/A                      | N/A                           | N/A                                       | N/A                       | 3   |
| WP9219                      | RPG-301                       | ATLANTA WSFO          | 50                   | WP9219                       | MSCF-301                       | ATLANTA WSFO             | N/A                           | N/A                                       | N/A                       | 2   |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                  | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION           | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|----------------------------|--------------|---------------------|-----------------------|----------------------------|----------------------|---------------------------------|-------------------|--|
| WP9253             | RPG-301              | AUSTIN/SAN ANTONIO<br>WSFO | 45           | WP9253              | MSCF-301              | AUSTIN/SAN ANTONIO<br>WSFO | N/A                  | N/A                             | N/A               | 2  |
| FE4686             | RPG-302              | BEALE AFB                  | 9            | WT9914              | MSCF-302              | SACRAMENTO<br>WSO          | N/A                  | N/A                             | N/A               | 3  |
| 690112             | RPG-303              | BETHEL FAA (RPG 1)         | 145          | WV9904              | MSCF-302              | ANCHORAGE<br>WFO           | N/A                  | N/A                             | N/A               | 4  |
| 690112             | RPG-304              | BETHEL FAA (RPG 2)         | 145          | N/A                 | N/A                   | N/A                        | N/A                  | N/A                             | N/A               | -  |
| WT9677             | RPG-301              | BILLINGS WSO               | 13           | WT9677              | MSCF-301              | BILLINGS WSO               | N/A                  | N/A                             | N/A               | 2  |
| WN9515             | RPG-301              | BINGHAMTON WSO             | 10           | WN9515              | MSCF-301              | BINGHAMTON<br>WSO          | N/A                  | N/A                             | N/A               | 2  |
| WP9957             | RPG-301              | BIRMINGHAM WSFO            | 14           | WP9957              | MSCF-301              | NORTHEAST<br>ALABAMA       | N/A                  | N/A                             | N/A               | 2  |
| WR9764             | RPG-301              | BISMARCK WSFO              | 12           | WR9764              | MSCF-301              | BISMARCK<br>WSFO           | N/A                  | N/A                             | N/A               | 2  |
| WT9681             | RPG-301              | BOISE WSFO                 | 21           | WT9681              | MSCF-301              | BOISE WSFO                 | N/A                  | N/A                             | N/A               | 2  |
| WN9509             | RPG-301              | BOSTON WSFO                | 15           | WN9509              | MSCF-301              | BOSTON WSFO                | N/A                  | N/A                             | N/A               | 2  |
| WN9912             | RPG-301              | BROOKHAVEN WSFO            | 112          | WN9912              | MSCF-301              | BROOKHAVEN<br>WSFO         | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME           | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION          | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|---------------------|--------------|---------------------|-----------------------|---------------------------|----------------------|---------------------------------|-------------------|--|
| WP9250             | RPG-301              | BROWNSVILLE WSO     | 16           | WP9250              | MSCF-301              | BROWNSVILLE WSO           | N/A                  | N/A                             | N/A               | 2  |
| WN9528             | RPG-301              | BUFFALO WSFO        | 17           | WN9528              | MSCF-301              | BUFFALO WSFO              | N/A                  | N/A                             | N/A               | 2  |
| WN9617             | RPG-301              | BURLINGTON WSO      | 26           | WN9617              | MSCF-301              | BURLINGTON WSO            | N/A                  | N/A                             | N/A               | 2  |
| FI5294             | RPG-302              | CAMP HUMPHREYS      | 157          | N/A                 | N/A                   | N/A                       | N/A                  | N/A                             | N/A               | 3  |
| FE4855             | RPG-302              | CANNON AFB          | 49           | WP9365              | MSCF-302              | ALBUQUERQUE WSFO          | N/A                  | N/A                             | N/A               | 3  |
| WN9712             | RPG-301              | CARIBOU WSFO        | 20           | WN9712              | MSCF-301              | CARIBOU WSFO              | N/A                  | N/A                             | N/A               | 2  |
| WT19932            | RPG-301              | CEDAR CITY (RPG)    | 71           | WT19932             | MSCF-301              | SALT LAKE CITY WSFO (RPG) | N/A                  | N/A                             | N/A               | 2  |
| WN9208             | RPG-301              | CHARLESTON, SC WSO  | 24           | WN9208              | MSCF-301              | CHARLESTON, SC WSO        | N/A                  | N/A                             | N/A               | 2  |
| WN9414             | RPG-301              | CHARLESTON, WV WSFO | 122          | WN9414              | MSCF-301              | CHARLESTON, WV WSFO       | N/A                  | N/A                             | N/A               | 2  |
| WR9564             | RPG-301              | CHEYENNE WSFO       | 27           | WR9564              | MSCF-301              | CHEYENNE WSFO             | N/A                  | N/A                             | N/A               | 2  |
| WR9969             | RPG-301              | CHICAGO WSFO        | 86           | WR9969              | MSCF-301              | CHICAGO WSFO              | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME            | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION     | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|----------------------|--------------|---------------------|-----------------------|----------------------|----------------------|---------------------------------|-------------------|--|
| WN9710             | RPG-301              | CINCINNATI WSO       | 72           | WN9710              | MSCF-301              | CINCINNATI WSO       | N/A                  | N/A                             | N/A               | 2  |
| WN9524             | RPG-301              | CLEVELAND WSFO       | 23           | WN9524              | MSCF-301              | CLEVELAND WSFO       | N/A                  | N/A                             | N/A               | 2  |
| WN9310             | RPG-301              | COLUMBIA WSFO        | 19           | WN9310              | MSCF-301              | COLUMBIA WSFO        | N/A                  | N/A                             | N/A               | 2  |
| FE3022             | RPG-302              | COLUMBUS AFB         | 63           | WP9235              | MSCF-302              | JACKSON, MS WSFO     | WP9235               | BDDS-301                        | JACKSON, MS WSFO  | 3  |
| WP9251             | RPG-301              | CORPUS CHRISTI WSO   | 25           | WP9251              | MSCF-301              | CORPUS CHRISTI WSO   | N/A                  | N/A                             | N/A               | 2  |
| WP9259             | RPG-301              | DALLAS/FT WORTH WSFO | 54           | WP9259              | MSCF-301              | DALLAS/FT WORTH WSFO | N/A                  | N/A                             | N/A               | 2  |
| WR9469             | RPG-301              | DENVER WSFO          | 53           | WR9469              | MSCF-301              | DENVER WSFO          | N/A                  | N/A                             | N/A               | 2  |
| WR9546             | RPG-301              | DES MOINES WSFO      | 33           | WR9546              | MSCF-301              | DES MOINES WSFO      | N/A                  | N/A                             | N/A               | 2  |
| WR9954             | RPG-301              | DETROIT WSFO         | 35           | WR9954              | MSCF-301              | DETROIT WSFO         | N/A                  | N/A                             | N/A               | 2  |
| WR9451             | RPG-301              | DODGE CITY WSO       | 29           | WR9451              | MSCF-301              | DODGE CITY WSO       | N/A                  | N/A                             | N/A               | 2  |
| FE4497             | RPG-302              | DOVER AFB            | 34           | WN9952              | MSCF-302              | NORFOLK WSFO         | N/A                  | N/A                             | N/A               | 3  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION         | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|--------------------------|--------------|---------------------|-----------------------|--------------------------|----------------------|---------------------------------|-------------------|--|
| WR9745             | RPG-301              | DULUTH WSO               | 32           | WR9745              | MSCF-301              | DULUTH WSO               | N/A                  | N/A                             | N/A               | 2  |
| FE4661             | RPG-302              | DYESS AFB                | 37           | WP9263              | MSCF-302              | SAN ANGELO WSO           | N/A                  | N/A                             | N/A               | 3  |
| FE2805             | RPG-302              | EDWARDS AFB              | 46           | WT9386              | MSCF-302              | LAS VEGAS WSO            | N/A                  | N/A                             | N/A               | 3  |
| FE2823             | RPG-302              | EGLIN AFB                | 44           | WP9223              | MSCF-302              | MOBILE WSO               | WP9223               | BDDS-301                        | MOBILE WSO        | 3  |
| WP9270             | RPG-301              | EL PASO WSO              | 42           | WP9270              | MSCF-301              | EL PASO WSO              | N/A                  | N/A                             | N/A               | 2  |
| WT9903             | RPG-301              | ELKO WSO (RPG)           | 87           | WT9903              | MSCF-301              | ELKO WSO (RPG)           | N/A                  | N/A                             | N/A               | 2  |
| WT9594             | RPG-301              | EUREKA WSO (BUNKER HILL) | 11           | WT9594              | MSCF-301              | EUREKA WSO (BUNKER HILL) | N/A                  | N/A                             | N/A               | 2  |
| EVA N              | RPG-301              | EVANSVILLE               | 151          | EVAN                | MSCF-301              | EVANSVILLE               | N/A                  | N/A                             | N/A               | 2  |
| 690178             | RPG-303              | FAIRBANKS FAA (RPG 1)    | 151          | WV9261              | MSCF-301              | FAIRBANKS WFO            | N/A                  | N/A                             | N/A               | 4  |
| 690178             | RPG-304              | FAIRBANKS FAA (RPG 2)    | 151          | N/A                 | N/A                   | N/A                      | N/A                  | N/A                             | N/A               | -  |
| WR9750             | RPG-301              | FARGO/GRAND FORKS WSFO   | 106          | WR9750              | MSCF-301              | FARGO/GRAND FORKS WSFO   | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION         | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|--------------------------|--------------|---------------------|-----------------------|--------------------------|----------------------|---------------------------------|-------------------|--|
| WT9375             | RPG-301              | FLAGSTAFF WSO (RPG)      | 52           | WT9375              | MSCF-301              | FLAGSTAFF WSO (RPG)      | N/A                  | N/A                             | N/A               | 2  |
| FY4812             | RPG-302              | FT CAMPBELL              | 68           | WR9957              | MSCF-302              | PADUCAH WSO              | N/A                  | N/A                             | N/A               | 3  |
| FY4846             | RPG-302              | FT DRUM                  | 136          | WN9617              | MSCF-302              | BURLINGTON WSO           | N/A                  | N/A                             | N/A               | 3  |
| FY4824             | RPG-302              | FT HOOD                  | 59           | WP9259              | MSCF-302              | DALLAS/FT WORTH WSFO     | N/A                  | N/A                             | N/A               | 3  |
| FY4825             | RPG-302              | FT POLK                  | 117          | WP9240              | MSCF-302              | LAKE CHARLES WSO         | N/A                  | N/A                             | N/A               | 3  |
| FY4805             | RPG-302              | FT RUCKER                | 41           | WP9214              | MSCF-302              | TALLAHASSEE WSO          | N/A                  | N/A                             | N/A               | 3  |
| WT9768             | RPG-301              | GLASGOW WSO              | 55           | WT9768              | MSCF-301              | GLASGOW WSO              | N/A                  | N/A                             | N/A               | 2  |
| WR9465             | RPG-301              | GOODLAND WSO             | 57           | WR9465              | MSCF-301              | GOODLAND WSO             | N/A                  | N/A                             | N/A               | 2  |
| WR9552             | RPG-301              | GRAND ISLAND WSO         | 138          | WR9552              | MSCF-301              | GRAND ISLAND WSO         | N/A                  | N/A                             | N/A               | 2  |
| WR9476             | RPG-301              | GRAND JUNCTION WSO (RPG) | 56           | WR9476              | MSCF-301              | GRAND JUNCTION WSO (RPG) | N/A                  | N/A                             | N/A               | 2  |
| WR9635             | RPG-301              | GRAND RAPIDS WSO         | 60           | WR9635              | MSCF-301              | GRAND RAPIDS WSO         | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                    | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION     | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|------------------------------|--------------|---------------------|-----------------------|----------------------|----------------------|---------------------------------|-------------------|--|
| WT99<br>50         | RPG-301              | GREAT FALLS WSFO             | 132          | WT995<br>0          | MSCF-301              | GREAT FALLS<br>WSFO  | N/A                  | N/A                             | N/A               | 2  |
| WR96<br>45         | RPG-301              | GREEN BAY WSO                | 58           | WR964<br>5          | MSCF-301              | GREEN BAY<br>WSO     | N/A                  | N/A                             | N/A               | 2  |
| WN93<br>12         | RPG-301              | GREER WSO                    | 61           | WN931<br>2          | MSCF-301              | GREER WSO            | N/A                  | N/A                             | N/A               | 2  |
| FE480<br>1         | RPG-302              | HOLLOMAN AFB                 | 65           | WP9270              | MSCF-302              | EL PASO WSO          | WP9270               | BDDS-301                        | WHITE<br>SANDS    | 3  |
| WP99<br>35         | RPG-301              | HOUSTON WSO                  | 66           | WP9935              | MSCF-301              | HOUSTON WSO          | N/A                  | N/A                             | N/A               | 2  |
| WR94<br>38         | RPG-301              | INDIANAPOLIS WSFO            | 74           | WR943<br>8          | MSCF-301              | INDIANAPOLIS<br>WSFO | N/A                  | N/A                             | N/A               | 2  |
| WR99<br>56         | RPG-301              | JACKSON, KY WSO              | 81           | WR995<br>6          | MSCF-301              | JACKSON, KY<br>WSO   | N/A                  | N/A                             | N/A               | 2  |
| WP92<br>35         | RPG-301              | JACKSON, MS WSFO             | 78           | WP9235              | MSCF-301              | JACKSON, MS<br>WSFO  | N/A                  | N/A                             | N/A               | 2  |
| WP92<br>06         | RPG-301              | JACKSONVILLE WSO             | 79           | WP9206              | MSCF-302              | JACKSONVILL<br>E WSO | N/A                  | N/A                             | N/A               | 2  |
| FH52<br>70         | RPG-302              | KADENA AB                    | 158          |                     | MSCF-302              | YOKOTA               | N/A                  | N/A                             | N/A               | 3  |
| 69923<br>5         | RPG-303              | KAMUELA/KOHALA<br>APT(RPG 1) | 153          | WW918<br>2          | MSCF-302              | HONOLULU<br>WFO      | N/A                  | N/A                             | N/A               | 4  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                    | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION           | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|------------------------------|--------------|---------------------|-----------------------|----------------------------|----------------------|---------------------------------|-------------------|--|
| 699235             | RPG-304              | KAMUELA/KOHALA<br>APT(RPG 2) | 153          | N/A                 | N/A                   | N/A                        | N/A                  | N/A                             | N/A               | -  |
| FE3010             | RPG-302              | KEESLER AFB MNTC TRNG<br>A   | 160          | FE3010              | MSCF-302              | KEESLER AFB<br>MNTC TRNG A | N/A                  | N/A                             | N/A               | 3  |
| FE3010             | RPG-302              | KEESLER AFB MNTC TRNG<br>B   | 161          | FE3010              | MSCF-302              | KEESLER AFB<br>MNTC TRNG B | N/A                  | N/A                             | N/A               | 3  |
| WP9201             | RPG-308              | KEY WEST WSFO                | 18           | WP9201              | MSCF-301              | KEY WEST<br>WSFO           | N/A                  | N/A                             | N/A               | 3  |
| 690137             | RPG-303              | KING SALMON FAA (RPG 1)      | 150          | WV9904              | MSCF-302              | ANCHORAGE<br>WFO           | N/A                  | N/A                             | N/A               | 4  |
| 690137             | RPG-304              | KING SALMON FAA (RPG 2)      | 150          | N/A                 | N/A                   | N/A                        | N/A                  | N/A                             | N/A               | -  |
| WP9325             | RPG-301              | KNOXVILLE WSO                | 102          | WP9325              | MSCF-301              | KNOXVILLE<br>WSO           | N/A                  | N/A                             | N/A               | 2  |
| FH5284             | RPG-302              | KUNSAN AB                    | 156          | N/A                 | N/A                   | N/A                        | N/A                  | N/A                             | N/A               | 3  |
| WR9643             | RPG-301              | LA CROSSE WSO                | 7            | WR9643              | MSCF-301              | LA CROSSE<br>WSO           | N/A                  | N/A                             | N/A               | 2  |
| FE4486             | RPG-302              | LAJES AB                     | 144          | FE4486              | MSCF-302              | LAJES AB                   | N/A                  | N/A                             | N/A               | 3  |
| WP9240             | RPG-301              | LAKE CHARLES WSO             | 83           | WP9240              | MSCF-301              | LAKE<br>CHARLES WSO        | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME         | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION        | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|-------------------|--------------|---------------------|-----------------------|-------------------------|----------------------|---------------------------------|-------------------|--|
| WT9386             | RPG-301              | LAS VEGAS WSO     | 43           | WT9386              | MSCF-301              | LAS VEGAS WSO           | N/A                  | N/A                             | N/A               | 2  |
| FE3099             | RPG-302              | LAUGHLIN AFB      | 30           | WP9253              | MSCF-302              | AUSTIN/SAN ANTONIO WSFO | N/A                  | N/A                             | N/A               | 3  |
| WR9436             | RPG-301              | LINCOLN WSFO      | 73           | WR9436              | MSCF-301              | LINCOLN WSFO            | N/A                  | N/A                             | N/A               | 2  |
| WP9340             | RPG-301              | LITTLE ROCK WSFO  | 92           | WP9340              | MSCF-301              | LITTLE ROCK WSFO        | N/A                  | N/A                             | N/A               | 2  |
| WT9295             | RPG-305              | LOS ANGELES WSFO  | 142          | WT9295              | MSCF-301              | LOS ANGELES WSFO        | N/A                  | N/A                             | N/A               | 2  |
| WR9423             | RPG-301              | LOUISVILLE WSFO   | 90           | WR9423              | MSCF-301              | LOUISVILLE WSFO         | N/A                  | N/A                             | N/A               | 2  |
| WP9933             | RPG-301              | LUBBOCK WSFO      | 82           | WP9933              | MSCF-301              | LUBBOCK WSFO            | N/A                  | N/A                             | N/A               | 2  |
| WR9743             | RPG-301              | MARQUETTE WSO     | 101          | WR9743              | MSCF-301              | MARQUETTE WSO           | N/A                  | N/A                             | N/A               | 2  |
| FE3300             | RPG-302              | MAXWELL AFB       | 107          | WP9957              | MSCF-302              | NORTHEAST ALABAMA       | N/A                  | N/A                             | N/A               | 3  |
| WT9597             | RPG-305              | MEDFORD WSO (RPG) | 94           | WT9597              | MSCF-301              | MEDFORD WSO (RPG)       | N/A                  | N/A                             | N/A               | 2  |
| WP9204             | RPG-301              | MELBOURNE WSO     | 98           | WP9204              | MSCF-301              | MELBOURNE WSO           | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION   | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|--------------------------|--------------|---------------------|-----------------------|--------------------|----------------------|---------------------------------|-------------------|--|
| WP9334             | RPG-301              | MEMPHIS WSFO             | 109          | WP9334              | MSCF-301              | MEMPHIS WSFO       | N/A                  | N/A                             | N/A               | 2  |
| WP9918             | RPG-301              | MIAMI WSFO               | 5            | WP9918              | MSCF-301              | MIAMI WSFO         | N/A                  | N/A                             | N/A               | 2  |
| 690140             | RPG-303              | MIDDLETON ISLAND (RPG 1) | 149          | WV9904              | MSCF-302              | ANCHORAGE WFO      | N/A                  | N/A                             | N/A               | 4  |
| 690140             | RPG-304              | MIDDLETON ISLAND (RPG 2) | 149          | N/A                 | N/A                   | N/A                | N/A                  | N/A                             | N/A               | -  |
| WP9265             | RPG-301              | MIDLAND/ODESSA WSO       | 93           | WP9265              | MSCF-301              | MIDLAND/ODESSA WSO | N/A                  | N/A                             | N/A               | 2  |
| WR9965             | RPG-301              | MILWAUKEE WSFO           | 97           | WR9965              | MSCF-301              | MILWAUKEE WSFO     | N/A                  | N/A                             | N/A               | 2  |
| WR9658             | RPG-301              | MINNEAPOLIS WSFO         | 100          | WR9658              | MSCF-301              | MINNEAPOLIS WSFO   | N/A                  | N/A                             | N/A               | 2  |
| FE4528             | RPG-302              | MINOT AFB                | 95           | WR9764              | MSCF-302              | BISMARCK WSFO      | N/A                  | N/A                             | N/A               | 3  |
| WT9773             | RPG-305              | MISSOULA WSO (RPG)       | 103          | WT9773              | MSCF-301              | MISSOULA WSO (RPG) | N/A                  | N/A                             | N/A               | 2  |
| WP9223             | RPG-301              | MOBILE WSO               | 99           | WP9223              | MSCF-301              | MOBILE WSO         | N/A                  | N/A                             | N/A               | 2  |
| 699213             | RPG-303              | MOLOKAI FAA (RPG 1)      | 154          | WW9182              | MSCF-302              | HONOLULU WFO       | N/A                  | N/A                             | N/A               | 4  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME           | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION  | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|---------------------|--------------|---------------------|-----------------------|-------------------|----------------------|---------------------------------|-------------------|--|
| 699213             | RPG-304              | MOLOKAI FAA (RPG 2) | 154          | N/A                 | N/A                   | N/A               | N/A                  | N/A                             | N/A               | -  |
| FE4830             | RPG-302              | MOODY AFB           | 139          | WP9206              | MSCF-302              | JACKSONVILLE WSO  | N/A                  | N/A                             | N/A               | 2  |
| WN9307             | RPG-301              | MOREHEAD CITY WSO   | 96           | WN9307              | MSCF-301              | MOREHEAD CITY WSO | N/A                  | N/A                             | N/A               | 2  |
| WP9327             | RPG-301              | NASHVILLE WSO       | 111          | WP9327              | MSCF-301              | NASHVILLE WSO     | N/A                  | N/A                             | N/A               | 2  |
| WR9610             | RPG-301              | NCL MICHIGAN WSFO   | 6            | WR9610              | MSCF-301              | NCL MICHIGAN WSFO | N/A                  | N/A                             | N/A               | 2  |
| 690147             | RPG-303              | NOME FAA (RPG 1)    | 147          | WV9261              | MSCF-302              | FAIRBANKS WFO     | N/A                  | N/A                             | N/A               | 4  |
| 690147             | RPG-304              | NOME FAA (RPG 2)    | 147          | N/A                 | N/A                   | N/A               | N/A                  | N/A                             | N/A               | -  |
| WN9952             | RPG-301              | NORFOLK WSFO        | 3            | WN9952              | MSCF-301              | NORFOLK WSFO      | N/A                  | N/A                             | N/A               | 2  |
| WP9921             | RPG-305              | NORMAN WSFO         | 134          | WP9921              | MSCF-301              | NORMAN WSFO       | N/A                  | N/A                             | N/A               | 2  |
| WR9562             | RPG-301              | NORTH PLATTE WSFO   | 85           | WR9562              | MSCF-301              | NORTH PLATTE WSFO | N/A                  | N/A                             | N/A               | 2  |
| WP9957             | RPG-301              | NORTHEAST ALABAMA   | 69           | WP9957              | MSCF-301              | NORTHEAST ALABAMA | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME          | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION   | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|--------------------|--------------|---------------------|-----------------------|--------------------|----------------------|---------------------------------|-------------------|--|
| WR9534             | RPG-301              | NORTHERN INDIANA   | 77           | WR9534              | MSCF-301              | NORTHERN INDIANA   | N/A                  | N/A                             | N/A               | 2  |
| WG3300             | RPG-301              | NRC #1             | 165          | WG3300              | MSCF-301              | NRC #1             | N/A                  | N/A                             | N/A               | 2  |
| WG3300             | RPG-301              | NRC #2             | 166          | WG3300              | MSCF-301              | NRC #2             | N/A                  | N/A                             | N/A               | 2  |
| WG2000             | RPG-301              | NWSHQ TESTBED(RPG) | 167          | WG2000              | MSCF-301              | NWSHQ TESTBED(RPG) | N/A                  | N/A                             | N/A               | 2  |
| WR9553             | RPG-301              | OMAHA WSFO         | 110          | WR9553              | MSCF-301              | OMAHA WSFO         | N/A                  | N/A                             | N/A               | 2  |
| WR9957             | RPG-301              | PADUCAH WSO        | 114          | WR9957              | MSCF-301              | PADUCAH WSO        | N/A                  | N/A                             | N/A               | 2  |
| WT9688             | RPG-301              | PENDLETON WSO      | 116          | WT9688              | MSCF-301              | PENDLETON WSO      | N/A                  | N/A                             | N/A               | 2  |
| WN9950             | RPG-301              | PHILADELPHIA WSFO  | 31           | WN9950              | MSCF-301              | PHILADELPHIA WSFO  | N/A                  | N/A                             | N/A               | 2  |
| WT9278             | RPG-301              | PHOENIX WSFO       | 76           | WT9278              | MSCF-301              | PHOENIX WSFO       | N/A                  | N/A                             | N/A               | 2  |
| WN9917             | RPG-301              | PITTSBURGH WSFO    | 115          | WN9917              | MSCF-301              | PITTSBURGH WSFO    | N/A                  | N/A                             | N/A               | 2  |
| WR9446             | RPG-301              | PLEASANT HILL WSO  | 38           | WR9446              | MSCF-301              | PLEASANT HILL WSO  | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME            | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION     | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|----------------------|--------------|---------------------|-----------------------|----------------------|----------------------|---------------------------------|-------------------|--|
| WT9578             | RPG-301              | POCATELLO WSO        | 125          | WT9578              | MSCF-301              | POCATELLO WSO        | N/A                  | N/A                             | N/A               | 2  |
| WN9938             | RPG-301              | PORTLAND, ME WSFO    | 64           | WN9938              | MSCF-301              | PORTLAND, ME WSFO    | N/A                  | N/A                             | N/A               |  |
| WT9698             | RPG-301              | PORTLAND, OR WSFO    | 124          | WT9698              | MSCF-301              | PORTLAND, OR WSFO    | N/A                  | N/A                             | N/A               | 2  |
| WG1000             | RPG-301              | PRC (RDASIM/RPG)     | 168          | WG1000              | MSCF-301              | PRC (RDASIM/RPG)     | N/A                  | N/A                             | N/A               | 2  |
| WR9464             | RPG-301              | PUEBLO WSO           | 118          | WR9464              | MSCF-301              | PUEBLO WSO           | N/A                  | N/A                             | N/A               | 2  |
| WR9544             | RPG-301              | QUAD CITIES WSO      | 36           | WR9544              | MSCF-301              | QUAD CITIES WSO      | N/A                  | N/A                             | N/A               | 2  |
| WN9306             | RPG-301              | RALEIGH/DURHAM WSFO  | 119          | WN9306              | MSCF-301              | RALEIGH/DURHAM WSFO  | N/A                  | N/A                             | N/A               | 2  |
| WR9662             | RPG-301              | RAPID CITY WSO       | 137          | WR9662              | MSCF-301              | RAPID CITY WSO       | N/A                  | N/A                             | N/A               | 2  |
| WT9488             | RPG-301              | RENO WSFO (RPG)      | 120          | WT9488              | MSCF-301              | RENO WSFO (RPG)      | N/A                  | N/A                             | N/A               | 2  |
| WR9576             | RPG-301              | RIVERTON/LANDER WSFO | 121          | WR9576              | MSCF-301              | RIVERTON/LANDER WSFO | N/A                  | N/A                             | N/A               | 2  |
| WN9954             | RPG-301              | ROANOKE WSO          | 47           | WN9954              | MSCF-301              | ROANOKE WSO          | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                  | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION             | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|----------------------------|--------------|---------------------|-----------------------|------------------------------|----------------------|---------------------------------|-------------------|--|
| FE2067             | RPG-302              | ROBINS AFB                 | 80           | WP9219              | MSCF-302              | ATLANTA<br>WSFO              | N/A                  | N/A                             | N/A               | 3  |
| WG4100             | RPG-301              | ROC OPEN SYSTEMS<br>(KREX) | 171          | WG4100              | MSCF-301              | OPEN<br>SYSTEMS              | N/A                  | N/A                             | N/A               | N/A  |
| WG4100             | RPG-301              | ROC REDUNDANT (RPG 1)      | 171          | WG4100              | MSCF-301              | ROC<br>REDUNDANT<br>(RPG 1)  | N/A                  | N/A                             | N/A               | N/A  |
| WG4100             | RPG-301              | ROC REDUNDANT (RPG 2)      | 171          | WG4100              | MSCF-301              | ROC<br>REDUNDANT<br>(RPG 2)  | N/A                  | N/A                             | N/A               | N/A  |
| WG4100             | RPG-301              | ROC-2 (RPG)                | 171          | WG4100              | MSCF-301              | ROC-2 (RPG)                  | N/A                  | N/A                             | N/A               | N/A  |
| WG4100             | RPG-301              | ROC-3 (KATE)               | 172          | WG4100              | MSCF-301              | KATE                         | N/A                  | N/A                             | N/A               | N/A  |
| WG4100             | RPG-301              | ROC-3 (RPG/KOHLER GEN)     |              | WG4100              | MSCF-301              | ROC-3<br>(RPG/KOHLER<br>GEN) | N/A                  | N/A                             | N/A               | N/A  |
| WG4100             | RPG-301              | ROC-4                      | 174          | WG4100              | MSCF-301              | ROC4                         | N/A                  | N/A                             | N/A               | N/A  |
| WT9914             | RPG-301              | SACRAMENTO WSO             | 28           | WT9914              | MSCF-301              | SACRAMENTO<br>WSO            | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                    | SUBNET<br>ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION                | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATION | NUMBER<br>OF<br>PERSONNEL<br>REQUIRED FOR<br>INSTALL |
|--------------------|----------------------|------------------------------|--------------|---------------------|-----------------------|---------------------------------|----------------------|---------------------------------|-------------------|--|
| WT99<br>32         | RPG-301              | SALT LAKE CITY WSFO<br>(RPG) | 104          | WT993<br>2          | MSCF-301              | SALT LAKE<br>CITY WSFO<br>(RPG) | N/A                  | N/A                             | N/A               | 2  |
| WP92<br>63         | RPG-301              | SAN ANGELO WSO               | 128          | WP9263              | MSCF-301              | SAN ANGELO<br>WSO               | N/A                  | N/A                             | N/A               | 2  |
| WT99<br>18         | RPG-301              | SAN DIEGO WSO                | 108          | WT991<br>8          | MSCF-301              | SANTA ANA<br>MTS                | N/A                  | N/A                             | N/A               | 2  |
| WT99<br>33         | RPG-301              | SAN FRANCISCO WSFO           | 105          | WT993<br>3          | MSCF-301              | SAN<br>FRANCISCO<br>WSFO        | N/A                  | N/A                             | N/A               | 2  |
| WT93<br>89         | RPG-301              | SAN JOAQUIN VALLEY<br>WSO    | 67           | WT938<br>9          | MSCF-301              | SAN JOAQUIN<br>VALLEY WSO       | N/A                  | N/A                             | N/A               | 2  |
| 69F36<br>2         | RPG-303              | SAN JUAN FAA (RPG 1)         | 123          | WP9526              | MSCF-302              | SAN JUAN<br>WFO                 | N/A                  | N/A                             | N/A               | 4  |
| 69F36<br>2         | RPG-304              | SAN JUAN FAA (RPG 2)         | 123          | N/A                 | N/A                   | N/A                             | N/A                  | N/A                             | N/A               | -  |
| WT99<br>18         | RPG-301              | SANTA ANA MTS                | 129          | WT991<br>8          | MSCF-301              | SANTA ANA<br>MTS                | N/A                  | N/A                             | N/A               | 2  |
| WT99<br>22         | RPG-301              | SEATTLE WSFO                 | 8            | WT992<br>2          | MSCF-301              | SEATTLE<br>WSFO                 | N/A                  | N/A                             | N/A               | 2  |
| WP92<br>48         | RPG-301              | SHREVEPORT WSO               | 127          | WP9248              | MSCF-301              | SHREVEPORT<br>WSO               | N/A                  | N/A                             | N/A               | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME               | SUBNE<br>T ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION    | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATI<br>ON | NUMBER<br>OF<br>PERSONN<br>EL<br>REQUIRE<br>D FOR<br>INSTALL |
|--------------------|----------------------|-------------------------|---------------|---------------------|-----------------------|---------------------|----------------------|---------------------------------|-----------------------|--|
| WR96<br>51         | RPG-301              | SIOUX FALLS WSFO        | 51            | WR965<br>1          | MSCF-301              | SIOUX FALLS<br>WSFO | N/A                  | N/A                             | N/A                   | 2  |
| 69014<br>1         | RPG-303              | SITKA FAA (RPG 1)       | 146           | WV938<br>1          | MSCF-302              | JUNEAU WFO          | N/A                  | N/A                             | N/A                   | 4  |
| 69014<br>1         | RPG-304              | SITKA FAA (RPG 2)       | 146           | N/A                 | N/A                   | N/A                 | N/A                  | N/A                             | N/A                   | -  |
| WP99<br>19         | RPG-301              | SLIDELL WSFO            | 84            | WP9919              | MSCF-301              | SLIDELL WSFO        | N/A                  | N/A                             | N/A                   | 2  |
| 69921<br>1         | RPG-303              | SOUTH KAUAI FAA (RPG 1) | 152           | WW918<br>2          | MSCF-302              | HONOLULU<br>WFO     | N/A                  | N/A                             | N/A                   | 4  |
| 69921<br>1         | RPG-304              | SOUTH KAUAI FAA (RPG 2) | 152           | N/A                 | N/A                   | N/A                 | N/A                  | N/A                             | N/A                   | -  |
| 69920<br>1         | RPG-303              | SOUTH SHORE FAA (RPG 1) | 155           | WW918<br>2          | MSCF-302              | HONOLULU<br>WFO     | N/A                  | N/A                             | N/A                   | 4  |
| 69920<br>1         | RPG-304              | SOUTH SHORE FAA (RPG 2) | 155           | N/A                 | N/A                   | N/A                 | N/A                  | N/A                             | N/A                   | -  |
| WT97<br>85         | RPG-301              | SPOKANE WSO             | 113           | WT978<br>5          | MSCF-301              | SPOKANE WSO         | N/A                  | N/A                             | N/A                   | 2  |
| WR94<br>40         | RPG-301              | SPRINGFIELD WSO         | 126           | WR944<br>0          | MSCF-301              | SPRINGFIELD<br>WSO  | N/A                  | N/A                             | N/A                   | 2  |
| WR99<br>71         | RPG-301              | ST LOUIS WSFO           | 88            | WR997<br>1          | MSCF-301              | ST LOUIS<br>WSFO    | N/A                  | N/A                             | N/A                   | 2  |

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| RPG<br>ORG<br>CODE | RPG<br>KIT<br>NUMBER | SITE NAME                   | SUBNE<br>T ID | MSCF<br>ORG<br>CODE | MSCF<br>KIT<br>NUMBER | MSCF<br>LOCATION               | RBDDS<br>ORG<br>CODE | REMOTE<br>BDDS<br>KIT<br>NUMBER | RBDDS<br>LOCATI<br>ON | NUMBER<br>OF<br>PERSONN<br>EL<br>REQUIRE<br>D FOR<br>INSTALL |
|--------------------|----------------------|-----------------------------|---------------|---------------------|-----------------------|--------------------------------|----------------------|---------------------------------|-----------------------|--|
| WN99<br>25         | RPG-301              | STATE COLLEGE WSO           | 22            | WN992<br>5          | MSCF-301              | STATE<br>COLLEGE WSO           | N/A                  | N/A                             | N/A                   | 2  |
| WN99<br>31         | RPG-301              | STERLING WSFO               | 91            | WN993<br>1          | MSCF-301              | STERLING<br>WSFO               | N/A                  | N/A                             | N/A                   | 2  |
| WP92<br>14         | RPG-301              | TALLAHASSEE WSO             | 133           | WP9214              | MSCF-301              | TALLAHASSEE<br>WSO             | N/A                  | N/A                             | N/A                   | 2  |
| WP99<br>61         | RPG-301              | TAMPA WSO                   | 131           | WP9961              | MSCF-301              | TAMPA WSO                      | N/A                  | N/A                             | N/A                   | 2  |
| WR94<br>56         | RPG-301              | TOPEKA WSFO                 | 135           | WR945<br>6          | MSCF-301              | TOPEKA WSFO                    | N/A                  | N/A                             | N/A                   | 2  |
| WL00<br>00         | RPG-301              | TRAINING CENTER #1<br>NWSTC | 162           | WL000<br>0          | MSCF-301              | TRAINING<br>CENTER #1<br>NWSTC | N/A                  | N/A                             | N/A                   | 2  |
| WL00<br>00         | RPG-301              | TRAINING CENTER #2<br>NWSTC | 163           | WL000<br>0          | MSCF-301              | TRAINING<br>CENTER #2<br>NWSTC | N/A                  | N/A                             | N/A                   | 2  |
| WT92<br>74         | RPG-301              | TUCSON WSO                  | 39            | WT927<br>4          | MSCF-301              | TUCSON WSO                     | N/A                  | N/A                             | N/A                   | 2  |
| WP93<br>56         | RPG-301              | TULSA WSO                   | 75            | WP9356              | MSCF-301              | WESTERN<br>ARKANSAS            | N/A                  | N/A                             | N/A                   | 2  |
| FE302<br>9         | RPG-302              | VANCE AFB                   | 141           | WP9921              | MSCF-302              | NORMAN<br>WSFO                 | N/A                  | N/A                             | N/A                   | 2  |

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| <b>RPG<br/>ORG<br/>CODE</b> | <b>RPG<br/>KIT<br/>NUMBER</b> | <b>SITE NAME</b> | <b>SUBNET<br/>ID</b> | <b>MSCF<br/>ORG<br/>CODE</b> | <b>MSCF<br/>KIT<br/>NUMBER</b> | <b>MSCF<br/>LOCATION</b> | <b>RBDDS<br/>ORG<br/>CODE</b> | <b>REMOTE<br/>BDDS<br/>KIT<br/>NUMBER</b> | <b>RBDDS<br/>LOCATION</b> | <b>NUMBER<br/>OF<br/>PERSONNEL<br/>REQUIRED FOR<br/>INSTALL</b> |
|-----------------------------|-------------------------------|------------------|----------------------|------------------------------|--------------------------------|--------------------------|-------------------------------|---|---------------------------|---|
| FE4610                      | RPG-302                       | VANDENBERG AFB   | 140                  | FE4610                       | MSCF-302                       | VANDENBERG AFB           | FE4610                        | BDDS-301                                  | VANDENBERG AFB            | 3   |
| WP9356                      | RPG-301                       | WESTERN ARKANSAS | 130                  | WP9356                       | MSCF-301                       | WESTERN ARKANSAS         | N/A                           | N/A                                       | N/A                       | 2   |
| WR9450                      | RPG-301                       | WICHITA WSO      | 70                   | WR9450                       | MSCF-301                       | WICHITA WSO              | N/A                           | N/A                                       | N/A                       | 2   |
| WN9301                      | RPG-301                       | WILMINGTON WSO   | 89                   | WN9301                       | MSCF-301                       | WILMINGTON WSO           | N/A                           | N/A                                       | N/A                       | 2   |
| WT9278                      | RPG-301                       | YUMA (RPG)       | 143                  | WT9278                       | MSCF-301                       | PHOENIX WSFO             | N/A                           | N/A                                       | N/A                       | 2   |

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### Attachment W: Contingency Plan

This attachment will reference ROC and agency policies set to combat possible issues and concerns that may occur during INCO.

**Adverse Weather:** If the site advises that adverse weather, or the predicted onset of adverse weather will prevent INCO from starting or continuing, the INCO team chief will immediately contact the Hotline to pass this information. The ORPG Deployment Government Manager will assess the situation and develop a plan to coordinate INCO and the adverse weather.

**Equipment/Parts Availability:** If a shortage or outage of any equipment and/or parts will keep the INCO from being successfully completed, the INCO team chief will immediately contact the Hotline. This information will be passed to the ORPG Deployment Government Manager to assess the situation and determine if INCO can continue with the outage/shortage listed as a discrepancy or if the INCO team must delay the completion of INCO until the outage/shortage is solved.

**INCO Team Problems:** If for any reason a full INCO team can not travel to the site and work together to complete INCO as scheduled, the INCO team chief will immediately contact the Hotline. This information will be passed to the ORPG Deployment Government Manager to assess the situation and develop a plan to accommodate the absence of an INCO team member.

**Site Readiness Problems:** The ROC Deployment Team Coordinator will be contacting the site prior to the arrival of the INCO team. If a site readiness problem exists, this information will be passed to the ORPG Deployment Government Manager to assess the situation and develop a plan to work with the site so that site readiness is no longer an issue or reschedule the site.

#### Risk mitigation efforts will include:

- a. Review of site surveys to determine possible problem areas, and consult with site and appropriate technical experts on measures to be taken to address issues prior to arrival by the INCO team.
- b. Contact site two weeks prior to installation and during the week prior to installation to assess readiness and determine actions required to address outstanding issues. Issues may include personnel availability, site readiness, parts availability, and impending weather events. Actions to be taken may include a shift of activities during the install week, diversion of ROC personnel to support installation, or rescheduling of the site install (and possibly conducting the install at another site).
- c. Sites will be contacted after the install to assess performance and develop procedural changes to improve installation.

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**Attachment X: RPG INSTALLATION ASSESSMENT TEST COMPONENT****X.1 Purpose**

The purpose of this test is to assess the stability of the WSR-88D operating with RPG hardware and software. It is expected that the test will be run on the third day of the installation, after the MSCF is installed and checked out. (This will normally be around noon on the third day.) The test is designed to be run by one person augmenting the normal shift personnel. The test setup will take approximately one hour. The test should be run a minimum of 4 hours. System functionalities assessed during this test include the following:

- a. Use of all operational VCPs.
- b. Generation of products and transmission to narrowband users.
- c. Narrowband communications stability with AWIPs, PUPs, and external users.
- d. Recording Archive III data (DOC only)

**X.2 Test Configuration****X.2.1 Hardware Configuration**

The RPG hardware will be assembled and kitted at the National Reconditioning Center (NRC) from legacy rack units and new hardware purchased from pre-competed contracts. Once kits are complete, the National Logistics Support Center (NLSC) will ship the kits to operational sites for installation by teams trained by the ROC. A prerequisite for this test is that the RPG hardware be installed and tested IAW the RPG INCO Plan For Open Systems Upgrade, Attachments N through P. In addition the initial checkout of the RPG must be completed IAW Attachment H.1. Both the RDA and PUP hardware are required for the test. The local AWIPs system can be used to display the RPG products in lieu of the PUP, however use of the PUP is preferred.

**X.2.2 Software Configuration**

The software configuration will be defined by the WSR-88D CPCIs released by the OSF Configuration Management Section. This software will be installed at the NRC as part of the kitting process.

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**X.3 Test Data****X.3.1 Input Data**

The input data for this test is live weather data gathered by the WSR-88D.

**X.3.2 Output Data**

The output data set for this test will be the Archive Level III collected at the RPG. These archive data are gathered continuously during the test.

**X.4 Procedure Steps****X.4.1 Setup Steps****X.4.1.1 Start Up PUPs**

When necessary perform the PUP start-up procedure found in the NEXRAD Technical Manual, NWS EHB 6-530 Section 4-3.

Bring up the operational PUP software.

| <u>STEP</u> | <u>EQUIPMENT</u>      | <u>PROCEDURE</u>            | <u>RESPONSE</u>   |
|-------------|-----------------------|-----------------------------|---|
| 1           | RPGOP system console. | Type: <b>PUPUP</b> <return> | “PUP SOFTWARE LOADED & STARTED” appears followed by several S309M1 messages. Within 30 seconds the PUP graphics windows should refresh. |

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| <u>STEP</u> | <u>EQUIPMENT</u>             | <u>PROCEDURE</u>  | <u>RESPONSE</u>   |
|-------------|------------------------------|---|---|
| 2           | RPGOP applications terminal. | Type: <b>C,C,C,1 &lt;return&gt;</b><br><br>in many cases the RPGOP may be connected on line 2, if so enter: <b>C,C,C,2 &lt;return&gt;</b> | Establish the communication line between the PUP and RPG. If the line has already been connected from the RPG, "FEEDBACK: LINE ALREADY CONNECTED" appears at the RPGOP applications terminal. If the line has not been connected from the RPG, a message will respond with "Pending" communications at the RPGOP applications terminal. |

## X.4.1.2 Set Up Archive Level III

| <u>STEP</u> | <u>EQUIPMENT</u>    | <u>PROCEDURE</u>   | <u>RESPONSE</u>            |
|-------------|---------------------|--|----------------------------|
| 1           | RPG Jaz Disk Drive. | Ensure there is an Archive III Jaz disk in the RPG Jaz Disk Drive. | Ready Archive III for use. |

## X.4.1.3 Update Environmental Data

Before performing these procedures, obtain a recent upper air sounding or an upper air forecast valid for approximately the current time.

| <u>STEP</u> | <u>EQUIPMENT</u>                 | <u>PROCEDURE</u>  | <u>RESPONSE</u>                                    |
|-------------|----------------------------------|---|--|
| 1           | RPG Control/Status Window        | Select the Environmental Data button in the Applications box. | The Environmental Data (ED) Editor window appears. |
| 2           | Environmental Data Editor Window | If VAD UPDATE is on, then select the <b>Off</b> button.       | VAD Update OFF, button turns red.                  |

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| <u>STEP</u> | <u>EQUIPMENT</u>                                 | <u>PROCEDURE</u>  | <u>RESPONSE</u>  |
|-------------|--|---|--|
| 3           | Environmental Data Editor Window                 | If the units for wind speed on the window (knots or m/sec) are not the same as those for the sounding or forecast data, then select the button for the correct units.   | Wind speed units are the same on the window as for the sounding or forecast data.                |
| 4           | Environmental Data Editor Window                 | Select the <b>Data Entry</b> button, then reposition the two windows (ED Entry and ED Editor so they do not overlap.  | The Environmental Data Entry window appears.   |
| 5           | Environmental Data Entry Window                  | Select the <b>Clear</b> button.   | Current values are deleted.  |
| 6           | Environmental Data Entry window                  | Ensure the <b>Interpolate Between Levels</b> button has a checkmark, then, using sounding or forecast data, enter the wind direction and speed for the respective heights.                                      | As data is entered, wind barbs and direction/speed profiles will appear on the ED Editor screen. |
| 7           | Environmental Data Entry Window                  | After all wind data are entered, enter the -20 C and 0 C heights from the sounding or forecast data in the Hail Temperature Heights box. Enter the default storm motion values in the Default Storm Motion box. |  |
| 8           | Environmental Data Entry Window                  | Select the <b>Save</b> button on the ED Entry window, then answer <b>Yes</b> at the prompt.   | The edited winds and other data are saved.   |
| 9           | Environmental Data Editor Window                 | Select the <b>On</b> button for VAD Update.   | The On button turns green.   |
| 10          | Environmental Data Entry and Data Editor Windows | Select the <b>Close</b> button.   | The ED Entry and ED Editor windows close.  |

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## X.4.1.4 Start Archive III

| STEP | EQUIPMENT                         | PROCEDURE  | RESPONSE   |
|------|-----------------------------------|--|--|
| 1    | RPG Control/Status Window         | Select the <b>Archive Products</b> button.   | The Archive III Control/Status window appears.   |
| 2    | Archive III Control/Status Window | In the Auto Archive Control/Status box, select both the <b>Products</b> button and the <b>Status</b> button. | Auto Archive starts for both Products and Status Messages. The Status box changes to Active. |
| 3    | Archive III Control/Status Window | Select the <b>Close</b> button.  | The Archive III Control/Status window closes.  |

## X.4.1.5 Set Up RPGOP

## X.4.1.5.1 Disconnect Dedicated Line to RPG and Clear PUP Database

| <u>STEP</u> | <u>EQUIPMENT</u>             | <u>PROCEDURE</u>   | <u>RESPONSE</u>  |
|-------------|------------------------------|--|--|
| 1           | RPGOP applications terminal. | Press function key "F1", then type: <b>C,C,D,line number &lt;return&gt;</b> ( <i>line number</i> is the dedicated NB line to the RPG). | Dedicated comms line to RPG is disconnected.                               |
| 2           | RPGOP applications terminal. | Type: <b>S,C &lt;return&gt;</b> .  | Verify disconnection of dedicated line to RPG.                             |
| 3           | RPGOP applications terminal. | Type: <b>*****CLEAR &lt;return&gt;</b> .   | "FEEDBACK: EXECUTED - *****CLEAR" appears and the PUP database is cleared. |
| 4           | RPGOP applications terminal. | Type: <b>S,T &lt;return&gt;</b> .  | Verify that there are no products in the PUP database.                     |

**NOTE**

IF AWIPS IS USED FOR PRODUCT DISPLAY, USE PROCEDURES EQUIVALENT TO THE USER FUNCTION COMMANDS LISTED IN PARAGRAPH 4.1.5.2 AND THE TIME LAPSE PROCEDURES IN PARAGRAPH 4.1.5.3

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## X.4.1.5.2 Define User Function

(The operator should select the UF #. UF18 is used as an example through the remainder of this procedure. Ensure the products R, V, SRM, and CR are on the RPS list.)

| <u>STEP</u> | <u>EQUIPMENT</u>             | <u>PROCEDURE</u>   | <u>RESPONSE</u>   |
|-------------|------------------------------|--|---|
| 1           | RPGOP applications terminal. | Press function key <b>F1</b> , then type:<br><b>U,D,18,DISPLAYPROD</b><br><b>&lt;return&gt;</b> .  | PUP Main Window appears, then "FEEDBACK: BEGIN UF 18 DEFINITION" appears.   |
| 2           | RPGOP applications terminal. | Press function key <b>F1</b> .   | PUP Main Window appears.  |
| 3           | RPGOP applications terminal. | Type the following lines:<br><br><b>D,G,R &lt;return&gt;</b> with<br><br>PROD NAME = <b>R</b><br>DTA LVL = <b>16</b><br>RES = <b>.54</b><br>SLICE = <b>0.5</b><br>PARAM 1 = blank<br>PARAM2 = blank<br>RPG = blank<br>TIME = blank<br>DATE = blank<br>SCR = <b>R1</b><br>REQ PRI = <b>H</b><br>RPG CNT = <b>1</b><br>REQ MAP = <b>N &lt;return&gt;</b> . | When <return> is pressed, the FEEDBACK line displays the command, the number of the command, and which window it pertains to. |
| 4           | RPGOP applications terminal. | Repeat step 3 but with<br><br>PROD NAME = <b>V</b><br>SCR = <b>R2</b>  | When <return> is pressed, the FEEDBACK line displays the command, the number of the command, and which window it pertains to. |

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| <u>STEP</u> | <u>EQUIPMENT</u>             | <u>PROCEDURE</u>   | <u>RESPONSE</u>  |
|-------------|------------------------------|--|--|
| 5           | RPGOP applications terminal. | Repeat step 3 but with<br><br>PROD = <b>SRM</b><br><br>SCR = <b>R3</b>                   | When <return> is pressed, the FEEDBACK line displays the command, the number of the command, and which window it pertains to.    |
| 6           | RPGOP applications terminal. | Repeat step 3 but with<br><br>PROD = <b>CR</b><br>SLICE= <b>BLANK</b><br>SCR = <b>R4</b> | When <return> is pressed, the FEEDBACK line displays the command, the number of the command, and which window it pertains to.    |
| 7           | RPGOP applications terminal. | Press Function Key <b>F1</b> .   | PUP Main Window appears.   |
| 8           | RPGOP applications terminal. | Type: <b>U,EN,E &lt;return&gt;</b> .   | "FEEDBACK: UF 18 DEFINITION COMPLETE" appears, along with a numbered list of the commands and which window each one pertains to. |

## X.4.1.5.3 Set Up Time Lapses (OPTIONAL)

| <u>STEP</u> | <u>EQUIPMENT</u>             | <u>PROCEDURE</u>   | <u>RESPONSE</u>   |
|-------------|------------------------------|--|---|
| 1           | RPGOP applications terminal. | Press function key <b>F1</b> .   | PUP Main Window appears.  |
| 2           | RPGOP applications terminal. | Type: <b>T,DE,1,CR &lt;return&gt;</b> .  | Time Lapse Define Edit Window appears with Time Lapse 1 on the edit line. |
| 3           | RPGOP applications terminal. | Edit the line so that RPG is the appropriate RPG mnemonic, START TIME and START DATE are the current time and date, MAX FRM is 72, and CONT UPDATE is Y. Press <return>. | "FEEDBACK: TL LOOP # 1 NO FRAMES" appears.                                |

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## X.4.1.5.4 Reconnect Dedicated Line to RPG

| <u>STEP</u> | <u>EQUIPMENT</u>             | <u>PROCEDURE</u>   | <u>RESPONSE</u>                         |
|-------------|------------------------------|--|---|
| 1           | RPGOP applications terminal. | Press function key <b>F1</b> , then type: <b>C,C,C,line number &lt;return&gt;</b> ( <i>line number</i> is the dedicated NB line to the RPG). | RPGOP dedicated line to RPG reconnects. |
| 2           | RPGOP applications terminal. | Type: <b>S,C &lt;return&gt;</b> .  | Verify that line is reconnected.        |

## X.4.2 Test Steps

## X.4.2.1 Procedures For Hour 1

## X.4.2.1.1 Download VCP 21 and Put RDA into Operate

| <u>STEP</u> | <u>EQUIPMENT</u>          | <u>PROCEDURE</u>  | <u>RESPONSE</u>                            |
|-------------|---------------------------|---|--|
| 1           | RPG Control/Status Window | Select the <b>VCP button</b> to the right of the radome.  | The VCP Control window appears.            |
| 2           | VCP Control Window        | In the Download VCP From RPG box, select the <b>21</b> box, then answer <b>Yes</b> at the prompt. | Feedback: Requesting change to RPG VCP 21. |
| 3           | VCP Control Window        | Select the <b>Close</b> button.   | The VCP Control window closes.             |
| 4           | RPG Control/Status Window | In the RDA box, select the <b>Control</b> button.   | The RDA Control/Status window appears.     |
| 5           | RDA Control/Status Window | In the RDA State box, select <b>Operate</b> .   | RDA State changes to OPERATE.              |
| 6           | RDA Control/Status Window | Select the <b>Close</b> button.   | The RDA Control/Status window closes.      |

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## X.4.2.1.2 Set AUTO PRF AND VAD UPDATE ON

| <u>STEP</u> | <u>EQUIPMENT</u>          | <u>PROCEDURE</u>   | <u>RESPONSE</u>   |
|-------------|---------------------------|--|---|
| 1           | RPG Control/Status Window | If the <b>Auto PRF</b> button on the RPG Status/Control window is off (box will be red), select it and answer <b>Yes</b> to the prompt. If Auto PRF is already on (box is green), go to next step.     | The Auto PRF button changes to green and the word On appears in the button.   |
| 2           | RPG Control/Status Window | If the <b>VAD Update</b> button on the RPG Status/Control window is off (box will be red), select it and answer <b>Yes</b> to the prompt. If VAD Update is already on (box is green), go to next step. | The VAD Update button changes to green and the word On appears in the button. |

## X.4.2.1.3 Check RPG Alarms at the RPG

| <u>STEP</u> | <u>EQUIPMENT</u>          | <u>PROCEDURE</u>                                 | <u>RESPONSE</u>   |
|-------------|---------------------------|--|---|
| 1           | RPG Control/Status Window | In the RPG box, select the <b>Status</b> button. | The RPG Status window appears. Use the information on this screen to fill out the RPG Log listed in Step 4.2.1.6. |
| 2           | RPG Status Window         | Select the <b>Close</b> button.                  | The RPG Status window closes.   |

## X.4.2.1.4 Check RDA Alarms at the RPG

| <u>STEP</u> | <u>EQUIPMENT</u>          | <u>PROCEDURE</u>                                 | <u>RESPONSE</u>   |
|-------------|---------------------------|--|---|
| 1           | RPG Control/Status Window | In the RDA box, select the <b>Alarms</b> button. | The RDA Alarms window appears. Use the information on this screen to fill out the RPG Log listed in Step 4.2.1.6. . |
| 2           | RDA Alarms Window         | Select the <b>Close</b> button.                  | The RDA Alarms window closes.   |

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## X.4.2.1.5 Check Comms Status at the RPG

| STEP | EQUIPMENT                                | PROCEDURE  | RESPONSE   |
|------|--|--|--|
| 1    | RPG Control/Status Window                | Click on the <b>green bar</b> between the RPG box and the Users box. | The Product Distribution Comms Status window appears. Use the information on this screen to fill out the RPG Comms Log listed in Step 4.2.1.6. |
| 2    | Product Distribution Comms Status Window | Select the <b>Close</b> button.                                      | The Product Distribution Comms Status window closes.   |

X.4.2.1.6 Complete the following three log sheets: 1) RPG Log; 2) RPG Comms Log; and 3) PUP Log for hour 1. Exercise User Function 18 and Time Lapse 1 (Optional).

## X.4.2.2 Procedures for Hour 2

## X.4.2.2.1 Change VCP

Note: If the radar is already in VCP 11 you should skip this section.

| <u>STEP</u> | <u>EQUIPMENT</u>          | <u>PROCEDURE</u>   | <u>RESPONSE</u>                            |
|-------------|---------------------------|--|--|
| 1           | RPG Control/Status Window | Select the <b>VCP</b> button to the right of the radome.   | The VCP Control window appears.            |
| 2           | VCP Control Window        | In the Download VCP From RPG box, select the <b>11</b> box, then answer <b>Yes</b> at the prompt.  | Feedback: Requesting change to RPG VCP 11. |
| 3           | RPG Control/Status Window | Observe elevation angle of antenna (EL), next to the radome. If it is above 10 degrees, wait until it returns to the lowest elevation angle before proceeding with the next step | N/A  |

|      |           |         |     |
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| <u>STEP</u> | <u>EQUIPMENT</u>   | <u>PROCEDURE</u>   | <u>RESPONSE</u>                               |
|-------------|--------------------|--|---|
| 4           | VCP Control Window | Select the <b>Restart VCP</b> button, and answer <b>Yes</b> to the prompt. | Feedback: Requesting the VCP to be restarted. |
| 5           | VCP Control Window | Select the <b>Close</b> button.  | The VCP Control window closes.                |

X.4.2.2.2 Complete the following three log sheets: 1) RPG Log; 2) RPG Comms Log; and 3) PUP Log for hour 2. Exercise User Function 18 and Time Lapse 1 (Optional).

#### X.4.2.3 Procedures for Hour 3

##### X.4.2.3.1 Change VCP

#### NOTE

If the radar is already in VCP 31 you should skip this section. The precipitation detection algorithm may switch the VCP back to either VCP 21 or 11. This a normal occurrence and should not be logged as an anomaly. If this does occur, enter information in the Test Log explaining why it occurred (i.e., "The VCP was switched to VCP 21 at ....(UTC) due to weather in the area.).

| <u>STEP</u> | <u>EQUIPMENT</u>          | <u>PROCEDURE</u>   | <u>RESPONSE</u>                               |
|-------------|---------------------------|--|---|
| 1           | RPG Control/Status Window | Select the <b>VCP</b> button to the right of the radome.   | The VCP Control window appears.               |
| 2           | VCP Control Window        | In the <b>Download VCP</b> From RPG box, select the <b>31</b> box, then answer <b>Yes</b> at the prompt.   | Feedback: Requesting change to RPG VCP 31.    |
| 3           | RPG Control/Status Window | Observe elevation angle of antenna (EL), next to the radome. If it is above 10 degrees, wait until it returns to the lowest elevation angle before proceeding with the next step | N/A   |
| 4           | VCP Control Window        | Select the <b>Restart VCP</b> button, and answer <b>Yes</b> to the prompt.   | Feedback: Requesting the VCP to be restarted. |

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| <u>STEP</u> | <u>EQUIPMENT</u>   | <u>PROCEDURE</u>                | <u>RESPONSE</u>                |
|-------------|--------------------|---------------------------------|--------------------------------|
| 5           | VCP Control Window | Select the <b>Close</b> button. | The VCP Control window closes. |

X.4.2.3.2 Complete the following three log sheets: 1) RPG Log; 2) RPG Comms Log; and 3) PUP Log for hour 3. Exercise User Function 18 and Time Lapse 1.

#### X.4.2.4 Procedures for Hour 4

##### X.4.2.4.1 Change VCP

### NOTE

If the radar is already in VCP 32 you should skip this section. The precipitation detection algorithm may switch the VCP back to either VCP 21 or 11. This is a normal occurrence and should not be logged as an anomaly. If this does occur, enter information in the Test Log explaining why it occurred (i.e., "The VCP was switched to VCP 21 at ....(UTC) due to weather in the area.).

| <u>STEP</u> | <u>EQUIPMENT</u>          | <u>PROCEDURE</u>  | <u>RESPONSE</u>                               |
|-------------|---------------------------|---|---|
| 1           | RPG Control/Status Window | Select the <b>VCP</b> button to the right of the radome.  | The VCP Control window appears.               |
| 2           | VCP Control Window        | In the Download VCP From RPG box, select the <b>32</b> box, then answer <b>Yes</b> at the prompt. | Feedback: Requesting change to RPG VCP 21.    |
| 3           | VCP Control Window        | Select the <b>Restart VCP</b> button, and answer <b>Yes</b> to the prompt.                        | Feedback: Requesting the VCP to be restarted. |
| 4           | VCP Control Window        | Select the <b>Close</b> button.   | The VCP Control window closes.                |

X.4.2.4.2 Complete the following three log sheets: 1) RPG Log; 2) RPG Comms Log; and 3) PUP Log for hour 4. Exercise User Function 18 and Time Lapse 1 (Optional).

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RPG Log - RPG Installation Assessment Test

| Test<br>Hour | Date/<br>Time<br>(UTC) | Check<br>RPG<br>Status<br>Log | RPG Alarms | RDA Status | VCP | RDA Alarms | Level III |         |
|--------------|------------------------|-------------------------------|------------|------------|-----|------------|-----------|---------|
|              |                        |                               |            |            |     |            | Status    | % Util. |
| 1            |                        |                               |            |            |     |            |           |         |
| 2            |                        |                               |            |            |     |            |           |         |
| 3            |                        |                               |            |            |     |            |           |         |
| 4            |                        |                               |            |            |     |            |           |         |

RPG Comms Log - RPG Installation Assessment Test

| Test<br>Hour | Dedicated Comms Status   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |              | SSM | Dial-In Comms<br>Comments |
|--------------|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|-----|---------------------------|
|              | © = Connected, P = Pending, N = Noisy, D = Disconnected, F = Failed, NI = Not Implemented) |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |              |     |                           |
|              | WB   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | Dialed<br>In |     |                           |
| 1            |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |              |     |                           |
| 2            |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |              |     |                           |
| 3            |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |              |     |                           |
| 4            |  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |              |     |                           |



PUP Log - RPG Installation Assessment Test

| Test<br>Hour         | Check<br>NEXRAD<br>Unit<br>Status | Check<br>PUP<br>Status<br>Log | 4-Level<br>Display<br>(UF 18) | TL<br>Products<br>Checked<br>(Optional) |
|----------------------|-----------------------------------|-------------------------------|-------------------------------|---|
| 1<br>Date/Time_____Z |                                   |                               |                               |   |
| 2<br>Date/Time_____Z |                                   |                               |                               |   |
| 3<br>Date/Time_____Z |                                   |                               |                               |   |
| 4<br>Date/Time_____Z |                                   |                               |                               |   |

### X.4.2.5 Wrap-Up Procedures

Once the 4 hours of the test have been completed, execute the following procedure to finish the test.

#### X.4.2.5.1 Print The RPG Status Log

| <u>STEP</u> | <u>EQUIPMENT</u>              | <u>PROCEDURE</u>                                | <u>RESPONSE</u>  |
|-------------|-------------------------------|---|--|
| 1           | RPG Control/Status Window     | Select the <b>Status</b> button in the RPG box. | The RPG Status window opens.   |
| 2           | RPG Status Window             | Select the <b>Print Log Messages</b> button.    | The Print RPG Log Messages window opens.   |
| 3           | Print RPG Log Messages Window | Select the <b>Print All Messages</b> box.       | A check mark will appear in the small white box.   |
| 4           | Print RPG Log Messages Window | Select the <b>Print</b> button.                 | The Feedback: line shows "System Log File sent to printer." The log file is printed. The Print RPG Log Messages window closes. |
| 5           | RPG Status Window             | Select the <b>Close</b> button.                 | The RPG Status window closes.  |

If problems have occurred during the test, the RPG Status Log information will be useful if the Installation Team has to consult with the ROC Hotline to resolve the problems.

**THE RPG INSTALLATION ASSESSMENT TEST IS COMPLETE.**

#### NOTE

**BEFORE BEGINNING OPERATIONAL USE OF THE RADAR, YOU MAY WANT TO CREATE ONE OR MORE CLUTTER SUPPRESSION REGIONS. FOR INSTRUCTIONS ON HOW TO DO THIS, REFER TO YOUR DISTANCE LEARNING TRAINING MATERIAL. THE HOTLINE (1-800-643-3363) CAN ALSO PROVIDE ASSISTANCE.**

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### Attachment Y: Installation of BDDS/RBDDS External Cables and IP Assignment

If the BDDS user(s) are ready to connect during INCO, this attachment should be given to the user(s) and the RPG/BDDS or RBDDS system administrator (SA) to facilitate setup. Installation of the BDDS ingest system, cabling, and connection to the RPG cabinet (or RBDDS LAN switch as appropriate) is the responsibility of the BDDS user.

There are four fixed Class C private IP addresses on the BDDS subnet. These four addresses are reserved for BDDS clients and each will be assigned to a specific BDDS client system's network interface card (NIC). The RPG/BDDS or RBDDS SA will assign the address and connection point for each client. Each client will be assigned one of the IP addresses as shown in Table Y.1 below. The 'X' denotes the site specific subnet. The 'ZZZZ' denotes the site specific ICAO (if operational) or an appropriate 4 letter identifier assigned to the RPG. For the site specific subnet, refer to Attachment F.

|   |
|---|
| #   |
| # BDDS clients -- should only be accessible from the BDDS --                  |
| #   |
| 192.168.X.23 bdds_client1 bdds_client1-ZZZZ bdds_client1-ZZZZ.nexrad.noaa.gov |
| 192.168.X.24 bdds_client2 bdds_client2-ZZZZ bdds_client2-ZZZZ.nexrad.noaa.gov |
| 192.168.X.25 bdds_client3 bdds_client3-ZZZZ bdds_client3-ZZZZ.nexrad.noaa.gov |
| 192.168.X.26 bdds_client4 bdds_client4-ZZZZ bdds_client4-ZZZZ.nexrad.noaa.gov |
| Table Y.1 Extract of /etc/host Table with BDDS IP Assignments                 |

#### For local BDDS:

The RPG LAN switch has four physical ethernet ports reserved for BDDS clients. The LAN switch is partitioned into an RPG LAN and a BDDS LAN. These four ports, which are reserved for BDDS clients, are assigned to the BDDS LAN. Internal cables from the LAN switch to the I/O panel are CAT 5 LAN cables with straight thru wiring. At the I/O panel, the connection point is wired per IEEE 802.3 for 10BaseT. The external connection points on the RPG I/O panel for BDDS clients are CP2 through CP 5.

- STEP 1.** The user will contact the RPG/BDDS SA for assignment of a physical connection point and an IP address.
- STEP 2.** The SA may use Table Y.2 to record assignment of the BDDS client connections. If this record is not used, the SA should establish their own format record of the exact assignments made for future reference. If the SA is unsure of the subnet assigned to the RPG and BDDS systems, the SA should coordinate with the INCO team to view

|      |           |         |     |
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the /etc/hosts table at either the RPG, MSCF, or BDDS workstation after software installation is complete.

**STEP 3.** The user will connect their LAN cable to the RPG I/O panel connection point designated by the SA.

**STEP 4.** The user will configure their client ingest system NIC card to use the IP address assigned by the SA.

**For remote BDDS (RBDDS):**

The RBDDS LAN switch has four physical ethernet ports reserved for BDDS clients. These four ports are reserved for BDDS clients. The connection points on the front of the LAN switch are ports 13 through 16.

**STEP 1.** The user will contact the RBDDS SA for assignment of a physical connection point and an IP address.

**STEP 2.** The SA may use the following Table Y.3 to record assignment of the BDDS client connections. If this record is not used, the SA should establish their own format record of the exact assignments made for future reference.

**STEP 3.** The user will connect their LAN cable to the RPG I/O panel connection point designated by the SA.

**STEP 4.** The user will configure their client ingest system NIC card to use the IP address assigned by the SA.

| SIZE | CAGE CODE | DWG NO. | REV |
|------|-----------|---------|-----|
| A    | 0WY55     | 2640002 | B   |

|            |                  |
|------------|------------------|
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|------------|------------------|

| NWS Location _____ WSR-88D RDA ICAO _____ Subnet 'X' = _____ |                                      |                     |                  |  |  |                             |                                       |
|--|--------------------------------------|---------------------|------------------|--|--|-----------------------------|---------------------------------------|
| RPG LAN Switch Port  | RPG Physical I/O Panel Connect Point | IP Address Assigned | Client Host Name | Actual BDDS Client, User, or System Name | Estimated Cable Distance and Labeling / Ckt# | Straight / Cross-over Cable | BDDS Client Physical Connection Point |
| 13   | CP2                                  | 192.168.X.23        | bdds_client<br>1 |  |  |                             |                                       |
| 14   | CP3                                  | 192.168.X.24        | bdds_client<br>2 |  |  |                             |                                       |
| 15   | CP4                                  | 192.168.X.25        | bdds_client<br>3 |  |  |                             |                                       |
| 16   | CP5                                  | 192.168.X.26        | bdds_client<br>4 |  |  |                             |                                       |
| Table Y.2 Record of RPG BDDS Client Connections              |                                      |                     |                  |  |  |                             |                                       |

| RBDDS Location _____ WSR-88D RDA ICAO _____ Subnet 'X' = _____ |                     |                  |   |   |                             |  |
|--|---------------------|------------------|---|---|-----------------------------|--|
| RBDDS LAN Switch Connect Port                                  | IP Address Assigned | Client Host Name | Actual RBDDS Client, User, or System Name | Estimated Cable Distance and Labeling / Ckt # | Straight / Cross-over Cable | RBDDS Client Physical Connection Point |
| 13   | 192.168.X.23        | bdds_client1     |   |   |                             |  |
| 14   | 192.168.X.24        | bdds_client2     |   |   |                             |  |
| 15   | 192.168.X.25        | bdds_client3     |   |   |                             |  |
| 16   | 192.168.X.26        | bdds_client4     |   |   |                             |  |
| Table Y.3 Record of RPG RBDDS Client Connections               |                     |                  |   |   |                             |  |

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A 0WY55 2640002 B

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